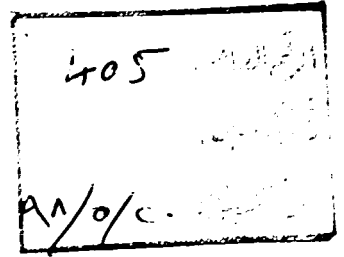


Ain Shams University
Institute of Post Graduate
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Medical Department



**Designing, Implementing and Evaluating
a Mother Education Program in Maternal
and Child Health Centers**

**Thesis Submitted in Fulfillment of
The PH.D. Degree in Childhood Studies**

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1998



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

وَقُلْ رَبِّ زِدْنِي عِلْمًا

صَدَقَ اللَّهُ الْعَظِيمُ

(١١٤. طه)

**To my family.
Their love and endurance
during this work are very
much appreciated**

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Table of Contents

| | Page |
|--|-------------|
| • Abstract and Key Words. | I |
| • List of Abbreviations. | II |
| • List of Tables. | IV |
| • List of Figures. | VI |
| • List of Appendices. | VII |
| • Introduction and Aim of the Study. | 1 |
| • Literature Review: | |
| * Mother and Infant Health, A General Perspective. | 4 |
| * The Egyptian Experience in Mother and Infant Care. | 73 |
| * Health Education for Maternal and Infant Health. | 110 |
| * Training of Health Personnel for Mother Coaching. | 133 |
| * Operations Research in the Field of Mother and Infant Care. | 143 |
| • Subjects and Methods. | 157 |
| • Results. | 168 |
| • Discussion. | 218 |
| • Conclusion. | 241 |
| • Recommendations. | 244 |
| • English Summary. | 247 |
| • List of References. | 252 |
| • Appendices(Including Glossary of Terms). | 271 |
| • Arabic Summary. | 321 |

Abstract

This study was conducted during the period of March 1996 to August 1997. The objective was to assess the effect of mother's education on women's practice in relation to herself and her child. Birth spacing was the practice tested for the woman; while proper management of breastfeeding and weaning practices were the main themes for the child. In addition, the impact on child health was also tested. The study was organized in three MCH centers in Cairo. The study group was recruited from two centers and the third served as control. Results of the study revealed positive impact of mother education on time of practice of family planning and sure contraceptive method used among the study group. In addition, mothers of the study group have exclusively breastfed their children for longer periods and had better practice of weaning. This study indicates that mother education during the prenatal and postnatal periods can have a positive impact on both family planning and breastfeeding practices.

Key Words

Breast feeding- Weaning- family planning- MCH centers- prenatal/postnatal - growth monitoring - immunization- infancy.

List of Abbreviations

| | |
|---------------------|---|
| ARI: | Acute Respiratory Infections. |
| BCG Vaccine: | Vaccine against tuberculosis. |
| BFHI: | Baby Friendly Hospital Initiative. |
| CAPMAS: | Central Agency for Public Mobilization and Statistics. |
| CDD: | Control of Diarrheal Diseases. |
| CPR: | Contraceptive Prevalence Rate. |
| CRC: | The Convention on the Rights of the Child. |
| CSP: | Child Survival Project. |
| DHS: | Demographic and Health Survey. |
| DPT: | Diphtheria, pertussis and tetanus. |
| EDHS: | Egypt Demographic and Health Survey. |
| EPI: | Expanded Program for Immunization. |
| EU: | European Union. |
| FHI: | Family Health International. |
| FP: | Family Planning. |
| GOE: | Government of Egypt. |
| HDI: | Human Development Index. |
| ICPD: | International Conference on Population and Development. |
| IEC: | Information, Education and Communication. |
| IMR: | Infant Mortality Rate. |
| IUD: | Intra-Uterine Device. |
| JICA: | Japanese International Cooperation Agency. |
| KAP: | Knowledge, attitude and practice. |
| LICs: | Local Information Centers. |

| | |
|----------------|---|
| MCH/FP: | Maternal and Child Health/ Family Planning. |
| MCH: | Maternal and Child Health. |
| MMR: | Maternal Mortality Rate. |
| MOHP: | Ministry of Health and Population. |
| NCCM: | National Council for Childhood and Motherhood. |
| NPC: | National Population Council. |
| ORT: | Oral Rehydration Therapy. |
| RAP: | Rapid Assessment Procedures. |
| SIS: | State Information Services. |
| TBA: | Traditional Birth Attendants. |
| TFR: | Total Fertility Rate. |
| UNFPA: | United Nations Family Planning Association. |
| UNICEF: | United Nations Children's Funds. |
| USAID: | United States Agency for International Development. |
| WHO: | World Health Organization. |
| WSC: | World Summit for Children. |
| WSD: | World Summit Deceleration. |

List of Tables

| No. | Title | Page |
|-----|--|------|
| 1 | Sample Distribution according to Level of Education. | 169 |
| 2 | Source of Prior Knowledge about Family Planning among Study and Control Groups by Percentage. | 170 |
| 3 | Intention for Use of a Family Planning Method among Study and Control Groups during the Prenatal period by Percentage. | 172 |
| 4 | Exposure to Family Planning Interpersonal Communication and Time of Exposure among Study and Control Groups. | 173 |
| 5 | Percentage of Family Planning Practice among Study and Control Groups. | 175 |
| 6 | Percentage of Second Pregnancy among Study and Control Groups. | 176 |
| 7 | Percentage of Use of Family Planning by Method among Study and Control Groups. | 178 |
| 8 | Percentage of Intended Family Planning Method and Actually Used Method among Study and Control Groups. | 179 |
| 9 | Measurement of Time of Practice of Family Planning for Both Study and Control Groups. | 182 |
| 10 | Family Planning Practice % among Study and Their Control According to Their level of Education. | 183 |
| 11 | Practice of Sure Methods of Family Planning % According to Level of Education among Study and Control Groups. | 186 |
| 12 | Breastfeeding Prenatal Knowledge among Study and Control Groups. | 189 |
| 13 | Distribution of Mothers among Study and Control Groups according to Parity. | 190 |
| 14 | Knowledge of Benefits of Breastfeeding among Study and Control Groups. | 191 |
| 15 | Mean Number of Known Benefits of Breastfeeding. | 191 |
| 16 | Actual Time of Initiation of Breastfeeding among Study and Control Groups. | 193 |
| 17 | Duration of Exclusive Breastfeeding among Study and Control Groups. | 196 |

| | | |
|----|---|-----|
| 18 | Duration of EBF according to Level of education for the Study Group. | 199 |
| 19 | Duration of EBF according to Level of education for the Control Group. | 199 |
| 20 | Prior Knowledge or Proper Time to Start Weaning Measured Prenatally among Study and Control Groups. | 201 |
| 21 | Prior Knowledge or Proper Weaning Food Measured Prenatally among Study and Control Groups. | 201 |
| 22 | Time for Weaning with Fluids. Knowledge against Actual practice among Study and Control Groups. | 203 |
| 23 | Time for Weaning with solids. Knowledge against Actual practice among Study and Control Groups. | 205 |
| 24 | Percentage of proper Weaning. Knowledge Against Practice among the Study Group and Their Control. | 208 |
| 25 | Practice of proper Weaning and Level of education among Study and Control Groups. | 210 |
| 26 | Weight/Age among Study and Control Groups | 212 |
| 27 | Height/Age among Study and Control Groups | 214 |
| 28 | Relationship between, Age of the Child, Growth Rate and Type of Feeding. | 217 |

List of Figures

| No. | Title | Page |
|-----|---|------|
| 1 | Source of Prior Knowledge about Family Planning among Study and Control Groups by Percentage. | 171 |
| 2 | Exposure to Family Planning Interpersonal Communication and Time of Exposure among Study and Control Groups. | 174 |
| 3 | Percentage of Family Planning Practice among Study and Control Groups. | 177 |
| 4 | Percentage of Intended Family Planning Method and Actually Used Method among Study and Control Groups. | 180 |
| 5 | Percentage of Use of Family Planning by Method among Study and Control Groups. | 181 |
| 6 | Family Planning Practice % among Study and Their Control According to Their level of Education. | 184 |
| 7 | Practice of Sure Methods of Family Planning % According to Level of Education among Study and Control Groups. | 187 |
| 8 | Knowledge of Benefits of Breastfeeding among Study and Control Groups. | 192 |
| 9 | Actual Time of Initiation of Breastfeeding among Study and Control Groups. | 194 |
| 10 | Duration of Exclusive Breastfeeding among Study and Control Groups. | 197 |
| 11 | Time for Weaning with Fluids. Knowledge against Actual practice among Study and Control Groups. | 204 |
| 12 | Time for Weaning with solids. Knowledge against Actual practice among Study and Control Groups. | 206 |
| 13 | Percentage of proper Weaning. Knowledge Against Practice among the Study Group and Their Control. | 209 |
| 14 | Practice of proper Weaning and Level of education among Study and Control Groups. | 211 |
| 15 | Weight/Age among Study and Control Groups | 213 |
| 16 | Height/Age among Study and Control Groups | 215 |

List of Appendices

| | Appendix Title | Page |
|---|---|-------------|
| A | Pre-Intervention Questionnaire | 271 |
| B | Post-Intervention Questionnaire | 277 |
| | Client File Contents: (C-E) | |
| C | *Prenatal Follow-up Sheet/Form 1 | 284 |
| D | *Postnatal Follow-up Sheet/Form 2 | 285 |
| E | *Growth Monitoring Chart | 287 |
| F | Mother Take Home Card for Follow-up. | 288 |
| G | List of Materials Used in Preparation of the Training Package. | 290 |
| | List of Training Package Contents: (H-M) | |
| H | Lesson Plans (for Nurse Training and to Guide Mother Coaching Sessions). | 293 |
| | Content Materials to Cover Sessions on: | |
| I | *Mother Nutrition During Pregnancy. | 297 |
| J | *Breastfeeding. | 301 |
| K | *Proper Weaning. | 304 |
| L | List of Background Materials Used to Support Mother Counseling. | 309 |
| M | List of Client Materials Distributed to Mothers During Session.(Including Mother Handout for Weaning. | 311 |
| N | List of Postures posted on Walls of the MCH Center During Study to Support Mother Counseling. | 314 |
| O | List of Additional Bibliography. | 315 |
| P | Immunization Schedule According to the Ministry of Health. | 317 |
| Q | Glossary of Terms | 318 |

**Introduction
and
Aim of the Work**

Introduction and Aim of the Work

Today's children are the citizens of tomorrow's world, their survival, protection and development is the prerequisite for the future development of humanity.

President Mubarak of Egypt declared the years 1989-1999 a Decade for the Protection and Development of the Egyptian Child, to "ensure that children occupy the forefront of our national plans for development". This Decade initiative - which is a pioneering initiative at the international level- aims to reduce child and maternal mortality ratio, and give priority to child-related projects in general. (Tucker, 1996)

Maternal health, nutrition and education are important for the survival and well-being of women in their own right and are key determinants of the health and well-being of the child in early infancy. According to the "International Child Health" published by UNICEF and WHO in 1992, It is well known that the major health problems of mothers and children are related to three synergetic conditions: malnutrition, infection, and the consequences of unregulated fertility. If intervention activities (promotional, preventive, and curative in relation to each of these three conditions) are integrated, the overall results will be more than simple sum of their parts. (UNICEF & WHO, 1992)

The rationale of this study is based on the fact that, provision of adequate food during pregnancy and lactation; promotion, protection and support of breast feeding and complementary feeding practices, including frequent feeding ; growth monitoring with appropriate follow-up actions ; and nutritional surveillance are the most essential needs, for the young child and the pregnant woman. (UNICEF& WHO, 1992)

Several common priorities and possibilities have been identified worldwide including : reversing declining trends in breast feeding particularly in urban areas ; improving weaning practices; monitoring growth to detect malnutrition and to intervene before it becomes serious; universal use of oral rehydration to replace body fluids lost during diarrhea; and universal immunization of children against childhood diseases. (Sullivan, 1995)

The survival and optimal development of the infant is dependent on the interplay of the socioeconomic circumstances in which the child lives and the illnesses he/she develops or escapes. Family competencies to provide adequate infant care vary according to skills and knowledge of mothers, living conditions and socioeconomic status. Teaching mothers is a pediatric priority in our country, it could have a fundamental impact on both infant's survival rate and health aspects like nutrition, infection, growth and development.

The period immediately before and after birth represents a crucial transition in the life of both the infant and the family system and, this is the period when an educational program should be implemented. Without education for health knowledge and understanding, there can be no informed decisions and actions to promote health. Thus, health education is a tool which enables people to make more control over their own health, and over the factors which affect their health. Any successful health promotion activity has to start "where people are". What are the things that worry people? How prominent are health worries among their other concerns? How they feel about health related behaviors? The style of any health promotion activity must be guided by this sort of information. (Ewles et al, 1985)

World's "Declaration on the Survival, Protection and Development of Children" of 1990 declared major goals for children and development in the 1990s; among which are those related to women and child's health:

- 1- Access by all couples to information and services to prevent pregnancies that are too early, too closely spaced, too late or too many;
- 2- Access by all pregnant women to prenatal care, trained attendants during child birth and referral facilities for high risk pregnancies and obstetric emergencies.
- 3- Empowerment of all women to breastfeed their children exclusively for four to six months and to continue breast feeding, with complementary food, well into the second year.
- 4- Global eradication of poliomyelitis by the year 2000.
- 5- Elimination of neonatal tetanus by 1995.
- 6- Reduction of measles morbidity and mortality.

7- Maintenance of a high level of immunization coverage against diphtheria, pertussis, tetanus, measles, poliomyelitis,, tuberculosis and against tetanus for women of child-bearing age.(UN, 1990)

Aim of the Study is:

- 1- To dispose an educational program in order to help mothers to acquire knowledge about breast feeding, weaning, family planning and child care.
- 2- To Examine the impact of a prenatal-postnatal mother education program on infant health and well-being.
- 3- To respond to the question whether such educational program would affect mother's knowledge and practice of breast feeding, weaning and family planning.

Literature Review

Chapter One

Mother and Infant Health, a General Perspective

Chapter One

Mother and Infant Health, a General Perspective

Over the past two decades, understanding has increased of the relationship among population, the environment, and sustainable economic development. This better understanding has led to a focus of attention upon human development and reproductive health, especially women's health and status. (Johnson, 1995)

Primary health care is the key to achieving the goal of health for all. Primary health care is essential health care made universally accessible to individuals and families in the community by means acceptable to them, through their full involvement, and at a cost that the community and country can afford. Safe motherhood is an essential component of primary health care. It aims at attaining optimal maternal and newborn health. It implies reduction of maternal mortality and morbidity and enhancement of the health of newborn infants through equitable access to primary health care including family planning, prenatal, delivery and postnatal care for the mother and infant, and access to essential obstetric and neonatal care. (ICPD, 1994)

Since 1988, there have been major international efforts to improve maternal and infant health; among which are these four important events:

- 1- The World Summit for Children and its plan of action.
- 2- The Convention on the rights of the child (CRC).
- 3- World's Declaration on the Survival, protection and development of Children.
- 4- The International Conference of Population and Development. (ICPD, 1994)

The Plan of Action of the World Summit for Children recognizes that promoting maternal and child health programs and responsible planning of family size together result in the reduction of both mortality and fertility rates, and contribute more to lowering rates of population growth than either type of activity alone. However, considerable effort is still needed to ensure safe motherhood as well as child survival. (UNICEF, 1994)

The Convention on the Rights of the Child (CRC) is the legal and moral foundation for improving children's lives. It is the most widely ratified UN convention (168 countries as of end-1994). Ratification means a country has committed itself to ensuring children's rights to survival and development; to protection from abuse, neglect, and exploitation; and to participation in decisions affecting their well-being.

Ratifying the Convention on the Rights of the Child (CRC) commits a nation to the protection and development of its children and to a process of monitoring and reporting on its implementation of the CRC. The Convention is an international blueprint for sound social development beyond the Mid-Decade and Year 2000 Goals. (Sullivan, 1995)

Since the unanimous adoption of the Convention on the Rights of the Child by the United Nations General Assembly in 1989 and the World Summit for Children in 1990, the leaders of the world have agreed to be guided by the principle of "first call" for children. This principle appeals for the essential needs of children to receive high priority in the allocation of resources, in bad times as well as good, from the family circle to the highest levels of government and international organizations. (UNICEF, 1993)

World's Declaration on the Survival, protection and development of Children of 1990 declared major goals for children and development in the 1990s, among which are those related to women and children's health.

- 1- Access by all couples to information and services to prevent pregnancies that are too early, too closely spaced, too late or too many,
- 2- Access by all pregnant women to prenatal care, trained attendants during childbirth and referral facilities for high risk pregnancies and obstetric emergencies
- 3- Empowerment of all women to breastfeed their children exclusively for four to six months and to continue breastfeeding, with complementary food, well into the second year.
- 4- Global eradication of poliomyelitis by the year 2000.
- 5- Elimination of neonatal tetanus by 1995
- 6- Reduction of measles morbidity and mortality.

7- Maintenance of a high level of immunization coverage against diphtheria, pertussis, tetanus, measles, poliomyelitis, tuberculosis and against tetanus for women of child-bearing age. (United Nations, 1990)

The International Conference on Population and Development, (ICPD) was held in Cairo from 5 to 13 September 1994. The Program of Action of the ICPD aims for the further reduction of infant, child and maternal mortality levels. It also builds on the agreement reached at the 1990 World Summit for children and the 1993 World Conference on Human Rights.

Important progress has been made in reducing infant and child mortality everywhere. However, the mortality of children under age 5 varies significantly between and within countries and regions. Poverty, malnutrition, and decline in breast-feeding, and inadequacy or lack of sanitation and health facilities are all associated with high infant and child mortality. (ICPD Program of Action, 1994)

The United Nations has recently developed an index to measure human development. The Human Development Index (HDI) has three components: life expectancy at birth, educational attainment and income. The HDI value for each country indicates how far that country has to go to attain certain defined goals: an average life span of 85 years, access to education for all and a decent level of income. Egypt is ranked as number 107 on this index. Bahrain, United Arab Emirates, Qatar, Kuwait, Libya, Tunisia, Saudi Arabia, Syria, Jordan, Algeria, Oman, Lebanon and Iraq are ranked as 44, 45, 56, 61, 73, 75, 76, 78, 80, 85, 91, 101 and 106 respectively. (UNDP, 1995)

The Current Status of Mothers and Children in the Developing World:

According to the "Health and Population Policy Statement, 1993", resources for health care in all developing countries are limited. In the poorest, public expenditure for health may amount to less than \$5 per person per year (Overseas Development Administration, 1992)

Arkutu, (1995) believes that the root causes of poor health in the developing world are: poor nutrition, violence, female genital mutilation, lack of education, early marriage age, heavy workload, and low socioeconomic status.

Maternal health, nutrition and education are important for the survival and well-being of women in their own right and are key determinants of the health and well-being of the child in early infancy. Major risk factors for maternal mortality claiming the lives of 500,000 young women each year. Accordingly, special attention should be given to health, nutrition and education of women. (United Nations, 1990)

According to the “International Child Health” published by UNICEF and WHO in 1992, It is well known that the major health problems of mothers and children are related to three synergetic conditions: malnutrition, infection, and the consequences of unregulated fertility. If intervention activities (promotional, preventive, and curative in relation to each of these three conditions) are integrated, the overall results will be more than simple sum of their parts. The lack of integration of MCH/FP programs has resulted in inefficient management, resources waste, fragmentation and gaps in services, and confusion at the community level and within the health care system. The vertical approach appeals particularly to funding agencies which require tangible results to present to their governing bodies within a short period of time

In terms of education, we find that in most of Arab countries a majority of adult women are illiterate, and are not engaged in formal employment. Access to good quality health services is low in both urban and rural areas (Zurayk, 1994)

The low status of women has been identified as a root cause of maternal deaths, poor health and high fertility in many societies. A reproductive health program forms one component of a comprehensive effort to transform power relations in the family, the community and the society. It challenges females subordination in the sexual and reproductive spheres, as well as in other spheres of women's lives. (Family Health International, 1994)

In one of the regional papers published by the Population Council, Zurayk, (1994) has stated that the health situation of women is rarely used in formulating measures of status and well-being. Rather, health is often dealt with as a specialized technical domain, when in fact it interacts with the demographic and socio-economic conditions to influence the very quality of women's lives. A simple example shows that the lifetime risk of maternal death, is 1 in 28 for women in North Africa versus 1 in 6366 for women in the United States and Canada.

According to Zurayk, (1994), in the Arab world, the majority of women marry at a young age and experience high levels of fertility. Moreover, many of these women live in poor socio-economic environments and do not have access to quality health services. The same study examined the age of marriage for females. For a majority of Arab women, this is the stage at which reproduction starts, (often within a year of marriage) and early reproduction below age 18 is known to impose severe drains on a woman's body that are detrimental to her health and to that of her infant.

In terms of maternal mortality, teenage women are twice likely to die in pregnancy or childbirth, compared to women 20 to 34 years old. (FHI, 1994)

The World Health Organization (WHO) defines maternal death as "the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes" (McCauley, et al 1994)

The death of a woman during childbirth is a catastrophe for her existing children because their own survival is immediately and seriously jeopardized by the loss of their mother. Maternal mortality is a symptom of the underlying neglect of women's health and well-being. (WHO, ICPD, 1994)

Reducing maternal mortality is an important goal of public health programs around the world. Available evidence indicates that the frequency of deaths associated with

pregnancy and childbirth is dramatically higher in developing countries than in developed ones.(Kane, et al, 1992)

The gap between industrialized and developing countries is wider in terms of maternal mortality rates than for any other health indicator. A woman's risk of death related to maternity is 1 in 58 in the Middle East and North Africa. (UNICEF 1996)

According to UNICEF's report "The World's Women, 1995", an African woman's lifetime risk of dying from pregnancy-related causes is estimated at 1 in 23, while a North American woman's is 1 in 4,000.

Kane, et al, (1992), have reported that maternal mortality continues to be a serious public health problem in Egypt, which is one of the relatively few developing nations that has estimated and reported national rates of maternal mortality. On the other hand, Nassar, (1993), believes that maternal mortality in Egypt showed a progressive decline from 110 deaths per 100000 live births in 1970 to 54 deaths per 100000 live births in 1988. Maternal mortality rates differ by governorates from 40.9 deaths per 100000 live births in urban governorates to 52.2 in Lower Egypt and 59 in Upper Egypt. This reflects again differences in socio-economic conditions among governorates.

WHO has stated that, internationally, for each maternal death there are 16 cases of reproductive illnesses. If we take into consideration the high rates of maternal mortality and the socioeconomic differences, we would acknowledge that reproductive illness is a crucial public health problem specially for deprived women in developing countries (WHO, 1994)

According to the State of Nations UNICEF report of 1994, almost 600,000 women die each year in pregnancy and child birth. For every woman who dies, approximately 30 more incur injuries, infections and disabilities which are usually untreated and unspoken of, and which are often humiliating and painful, debilitating and lifelong (UNICEF, 1994)

The issue of maternal mortality and morbidity, fast in its conspiracy of silence, is the most neglected tragedy of our times. The implications for children are too significant. Obviously, these women who die each year in childbirth leave behind them at least a million motherless children. The physical and emotional cost is immeasurable.

The causes of maternal death are similar around the world and that substandard care is a major contributing factor. Traditional birth attendant (TBA) training, on its own, has a limited impact upon maternal mortality and morbidity. Antenatal care, on its own, will not reduce maternal mortality. Furthermore, communities do not have the information they need to make appropriate decisions on the use of health services. Accordingly, an integrated approach to maternal health care is essential within a broader reproductive health framework. (Abou-Zahr, 1995)

In addition, The foundation for successful programming is not any particular technology but an attitudinal change assigning maternal and neonatal health and nutrition a high priority and the coordination of care that will address women's needs. (Mother Care Matters, 1994)

Reproductive health is another important domain that has recently received special interest. According to Zurayk (1994), this interest evolves from two sources (1) from the emphasis that has been placed on inter-linkages between fertility and child survival on the one hand, representing areas of long-term concern at the international and national spheres, and women's reproductive health on the other; and (2) from the safe motherhood initiatives that have arisen following the recent "discovery" of the tragedy of maternal deaths in developing countries where maternal mortality levels are almost 10 times higher than for developed countries.

In 1988, recognizing the magnitude and seriousness of these problems and the complementary of safe motherhood programs to ongoing projects in family planning and child survival, the United States Agency for International Development developed a ten-year maternal and neonatal health and nutrition project known as "Mother Care" to improve pregnancy outcomes and better the health and nutrition of women of

reproductive age and their newborns in developing countries. Mother Care program aims at: first, Ensuring good maternal and neonatal health and nutrition, and second, services at the health center level should be woman-focused.

The World Health Organization estimated that safe motherhood programs could reduce maternal mortality by half by the year 2000. (Mother Care Matters, 1994)

Child survival is closely linked to the timing, spacing and number of births and to the reproductive health of mothers. Early, late, numerous and closely spaced pregnancies are major contributors to high infant and child mortality, especially where health care facilities are scarce. Women's health and safe motherhood complications related to pregnancy and child birth are among the leading causes of mortality for women of reproductive age in many parts of the developing world, resulting in the death of about half a million women each year, 99 percent of them in developing countries. All countries are called upon, with the support of the international community, to expand the provision of maternal-health services in the context of primary health care. All countries should also aim to further reduce maternal mortality through measures to prevent, detect and manage high-risk pregnancies and birth. The ICPD's plan of action urges countries to give high priority to the protection, survival and development of children and youth and to make every effort to eliminate the adverse effects of poverty on children. The conference also called for reproductive rights. These rights rest on the recognition of the basic right of all couples and individuals to decide freely and responsibly the number, spacing and timing of their children and to have the information and means to do so, and the right to attain the highest standard of sexual and reproductive health. (ICPD Program of Action, 1994)

In respect to infant and child mortality, Sommerfelt & Stewart (1994) state, in their review of international demographic and health surveys, that child survival is measured by mortality rates. Many different factors contribute to high mortality rates among children in developing countries. These include repeated and improperly treated infectious illnesses, diseases caused by waterborne organisms (due to inadequate food intake and illness, and short spacing between births). While mortality rates do not provide information about the cause of death, they are important in assessing overall

child health in a country or in a population subgroup. Similarly, nutritional, or anthropometric, status is the end result of a number of factors that lead to high mortality rates. Assessing the nutritional status of children complements mortality information. As child survival improves, periodic nutritional assessments of children can serve as a barometer of the health of those children who survive. In about two-thirds of the countries surveyed, at least 1 in 10 children die before reaching their fifth birthday. In most countries, about 400 to 600 of the original 1,000 children are either dead or undernourished by the fifth anniversary of their birth.

Another strategy to enhance child survival and support family planning is breastfeeding. Exclusive breastfeeding for the first four to six months of life could save more than 1.5 million infants in developing countries, many of whom die from the diseases and malnutrition associated with over-dilution baby formula, often with unsafe water. Breastfeeding also inhibits ovulation and has historically been one of the most important means of spacing births. It is believed that breastfeeding averts an average of four births per woman in Africa and Asia. (UNICEF, ICPD 1994)

UNICEF supported the Middle East and North Africa to establish its Mid-Decade goals for mother and child well-being, among these goals:

- Halving of 1990 rates of malnutrition among the world's under fives (to include the elimination of micro-nutrient deficiencies, support for breastfeeding by all maternity units, and a reduction in the incidence of low birth weight to less than 10%)
- Achievement of 90% immunization among under-ones, the eradication of polio, the elimination of neonatal tetanus, a 90% reduction in measles cases, and a 95% reduction in measles deaths (compared to pre-immunization levels)
- Universal access to high-quality family planning information and services in order to prevent pregnancies that are too early, too closely spaced, too late, or too many

(Sullivan, 1995)

PRENATAL CARE:

According to (Worthington et al, 1981), the goal of prenatal care is so important to the extent of being a measure of social and economic development among nations throughout the world. International comparisons of maternal and infant health statistics reveal that promoting the health of mothers and infants requires solutions to problems that still affect a sizable proportion of the population.

One of the most important messages directed towards women is the need to attend prenatal care routinely even when feeling healthy. Prenatal care in addition to labor and delivery, postpartum and neonatal care and family planning constitute the essential components of a community obstetric service; all components must receive balanced attention. (Mother Care Matters, 1994)

Monitoring the health of the pregnant woman and her fetus is very important. Prenatal care provides an opportunity to treat diseases aggravated by pregnancy and to deliver preventive services to improve the health of both mother and newborn. One of the most important measures is immunization against tetanus. The vaccine has long been available and the estimated rate of immunization in developing regions rose steadily up to 45 per cent in 1990, but since then is estimated to have fallen to just over 40 per cent. UNICEF and WHO estimate the tetanus still kills as many as 600,000 newborns and 50,000 mothers every year. (UNICEF, 1995)

National Maternal Mortality Study conducted in Egypt during the period 92-93 found out that lack of antenatal care or poor quality care contributed to 33.3% of deaths. Of these, 40.2% of the women had sought antenatal care but were judged to have received poor quality care.

Provision of adequate antenatal care, in developing countries, faces many challenges among which are:

1-In most developing countries, prenatal and curative care was provided in separate clinics/locations by health personnel, while birthing services took place commonly at

home, assisted by traditional birth-attendants, family members, or neighbors. (UNICEF & WHO, 1992)

2- It has been revealed repeatedly in studies that investigate prenatal care, that women view pregnancy as a normal happening and do not feel the need to seek care unless they experience a complaint and often if it is of a serious nature. (Zurayk, 1994)

3-In developing countries only 56.0% of births take place with a trained birth attendant and only 37.0% in hospitals or clinics. (UNICEF, 1996)

4- There has also been a tendency in many countries for programs to become compartmentalized with separate managerial structures for components such as prenatal care, family planning, provision of immunization, diarrheal disease control, growth monitoring, nutrition supplementation, control of acute respiratory infections, etc. The management and supervisory structures tend to be vertical and technology oriented because of the inequality of available resources (funds, transportation, manpower for each program component). (UNICEF & WHO, 1992)

5-Prenatal care clinic should conduct group counseling and discussions about mother nutrition, breastfeeding and its advantages and how to prepare the breast for a successful breastfeeding experience. (ابراهيم، ١٩٨١)

6-Haas, et al (1995), believe that if prenatal care is provided by more qualified or experienced physicians, birth outcomes might improve

Furthermore, Affonso et al (1996), undertook psychological assessment and intervention during and after pregnancy. They suggest that for improving prenatal care, there is a need for evaluating different approaches for addressing culturally sensitive care. they finally recommend that use of talk-story could be useful for delivering psychological care. It could be included in the design of health care services for pregnant women in the general population.

Mother Nutrition During Pregnancy:

The nutritional status of a woman before and during pregnancy is critical to both her infant's and her own health and survival. It determines her well-being and that of the fetus and child, and in turn the health and reproductive capacity of the next generation's mothers. (WHO, 1995)

According to the World Declaration on the Survival, protection and development of children, 1990 maternal health, nutrition and education are important for the survival and well-being of women in their own right and are key determinants of the health and well-being of the child in early infancy. For the young child and the pregnant woman, provision of adequate food during pregnancy and lactation; promotion, protection and support of breastfeeding and complementary feeding practices, including frequent feeding; growth monitoring with appropriate follow-up actions; and nutritional surveillance are the most essential needs. (UN, 1990)

Johnson (1995), comments that according to WHO, many infants in the Arab world are born disadvantaged in terms of their health. They carry the burden of poverty and poor maternal health embodied in a low maternal caloric intake or inadequate weight gain during pregnancy, a low pre-pregnancy weight, a short stature, malaria, and reproductive tract infections, all of which are factors that influence birth weight

Worthington et al (1981), believe that the diet a women chooses during pregnancy and lactation is a result of the many influences since infancy on her feeding pattern. There is definitely increased nutritional demands during pregnancy. These demands focus on nutritional needs basic to human growth and development, increased protein, vitamins, and minerals to sustain the necessary building process, as well as sufficient energy input from calories to do the work. This basic concept provides a logic framework for nutrition education and guidance in prenatal care.

Hornstra, et al (1995) examined the importance of essential fatty acids in pregnancy and early human development. Their study suggest that increasing the maternal intake of essential fatty acids during pregnancy may be beneficial to both mother and child

Another study conducted by Wolff & Wolff in (1995) investigated the relationship between maternal diet and infant birth weight. The results of their study indicate that the nutrient dense (fruits, vegetables, low fat dairy) and protein rich (low fat meats, and dairy desserts) eating patterns were associated with increased birth weight and that the

transitional eating pattern (fats and oils, breads and cereals, high fat meats, sugar) are associated with decrease birth weight. Study findings suggest that the eating pattern methodology may be an appropriate tool for targeting dietary interventions.

Godfrey et al's study in 1996 have proved that mothers who had high carbohydrate intake in early pregnancy had babies with low birth weight. Low maternal intake of dairy and meat protein in late pregnancy was also associated with lower birth weight.

On the other hand, Worthington et al (1981), believe that, in the very early months of pregnancy, a severe limitation on the supply or transport of nutrients would have to occur because the quantitative requirements of the embryo are extremely small. Nevertheless, a restriction of materials and energy needed for cell synthesis and cell differentiation could produce malformations or cause the embryo to die. Malnutrition after the third month of gestation would not have teratogenic effects, but it could interfere with fetal growth. Nutrient requirements are greatest in the last trimester of pregnancy. Increasing evidence indicates that positive nutritional support of pregnancy, rather than past restrictions born of limited knowledge and false assumptions, builds for a positive outcome of pregnancy and increased health and vigor of mothers and infants alike. New perspectives of nutrition in pregnancy focus strongly on the preventive aspects of nutrition programs, identifying women at risk through careful assessment and planning follow-up nutritional care

Worthington adds that, the reasons for increased protein requirement are, the rapid growth of the baby, development of the placenta, enlargement of the maternal tissues, increased maternal circulating blood volume, formation of amniotic fluid and finally storage reserves. (Worthington et al, 1981)

INFANT AND CHILD CARE:

The health of infants and children is the foundation upon which the current and future health of societies is built. Healthy children will contribute to all aspects of social, economic and human development. By contrast, infant and childhood mortality and morbidity not only impose a burden in terms of current health care but also represent a

adulthood. Accordingly, the health of the individual during gestation, infancy and childhood is a critical determinant of his/her future health status. (WHO, ICPD, 1994)

UNICEF's "Children of Egypt" report indicates that a fair index of the health status of children, indeed of the community, is provided by the infant mortality rate. Its estimates vary because of under-registration in the official recording system. The infant mortality rate reflects a cluster of correlated factors influencing the situation of children like attention at and around the time of birth (about a fifth of the infant deaths occur in the first month of life). (UNICEF, 1987)

The report consecutively states that as fewer children die, parents are more readily persuaded to space births and limit family size. Maternal and child health interventions and the family planning effort have to become parts of the same effort and program. Policy makers too need to be persuaded that family planning taken up in isolation from child health and survival will not yield results. (UNICEF, 1987)

According to the World's Women Report, infant mortality has declined over the past two decades in large part due to increasing control of the major childhood and communicable diseases and the widespread improvements in maternal health services (UNICEF, 1995)

In September of 1990 a very important document was published, "The World Declaration on the Survival, Protection and Development of Children". Its Plan of Action stated that enhancement of children's health and nutrition is a first duty, and also a task for which solutions are now within reach. The lives of tens of thousands of boys and girls can be saved every day, because the causes of their death are readily preventable. Child and infant mortality is unacceptably high in many parts of the world, but can be lowered dramatically with means that are already known and easily accessible (United Nations, 1990)

Furthermore, according to this declaration, half a million mothers die each year from causes related to childbirth. Safe motherhood must be promoted in all possible ways. Emphasis must be placed on responsible planning of family size and on child spacing. The family, as a fundamental group and natural environment for the growth and well-being of children, should be given all necessary protection and assistance. (United Nations, 1990)

On the same basis this Same document “The World Declaration on the Survival, Protection and Development of Children, 1990”, made a commitment towards the world’s children. Three components of such commitment are directly related to mother and infant health,; these are:

- 1- All nations would work for a solid effort of national and international action to enhance children’s health, to promote pre-natal care and to lower infant and child mortality in all countries and among all people.
- 2- All nations would work for optimal growth and development in childhood, through measures to eradicate hunger, malnutrition and famine, and thus relieve millions of children of tragic sufferings in a world that has the means to feed all its citizens.
- 3- All nations would work to strengthen the role and status of women. They will promote responsible planning of family size, child spacing, breastfeeding and safe motherhood. (United Nations, 1990)

This Plan of Action calls for the concerted national action and international cooperation to strive for the achievement, in all countries, of major goals for the survival, protection and development of children by the year 2000. Of these goals, some are directly related to maternal and child health, these are:

- 1-Reduction of 1990 under-5 child mortality rates by one third or a level of 70 per 1,000 live births, whichever is the greater reduction;
- 2-Reduction of maternal mortality rates by half of 1990 levels;
- 3-Reduction of severe and moderate malnutrition among under-5 children by one half of 1990 levels. (United Nations, 1990)

The Middle East and North Africa led the world in reducing deaths of young children by halving the under-five-old mortality rate between 1980 and 1992. (Sullivan, 1995)

Undoubtedly President Hosni Mubark's decision to establish the National Council for Childhood and Motherhood in 1988 and his declaration that the nineteen nineties would be the Decade of the child were a turning point in upgrading childhood and the development of human resources for the well-being of the Egyptian child.

There are still great challenges to meet. According to Nassar et al, (1993), in Egypt, neo-natal death rates reached 12.7 per thousand live births in 1988 and post-neonatal death rate accounted for 30.6 per thousand live births. In spite of a significant decline in the infant mortality rates from 87 per thousand in 1976 to 43 per thousand in 1988, it is still high when compared with many other developing countries. Still the Egyptian situation is unusual for a country which has an extensive network of national health services. The Egyptian DHS conducted in 1995 indicated that the infant mortality rate now is 63 per thousand.

Recent data from Egypt indicate that rural infant mortality rates are about 50 percent higher than urban rates. The urban-rural contrast is largest in Upper Egypt, where rates are over 60 percent higher in rural areas than in urban areas, compared to about 40 percent in Lower Egypt. The slowest improvement was in the region with the highest infant mortality rates to start with, rural Upper Egypt, which now has mortality rates more than two and a half times as high as Cairo and Alexandria. These results indicate the regional targeting may be necessary to tackle the specific needs of lagging regions like rural Upper Egypt. (Assad, 1995)

Diarrhoeal dehydration, which after pneumonia and other respiratory infections kills the most children in the developing world, claims the lives of nearly 3 million children each year. (MOH.CSP 1993)

In Egypt, according to Nassar et al (1993), the leading cause of death in infancy according to vital statistics was diarrhea and other intestinal diseases, which are

responsible for more than half of all deaths over the last two decades (1991). The second most important cause is acute respiratory infections which accounts for one fifth to one quarter of all infant deaths. Deaths due to pregnancy complications are third. Almost 10% of infant deaths are due to pregnancy complications. It is believed that the decline in infant mortality rates reflect the impact of two major programs directed at child survival; the National Control of Diarrhea Project and the Child Survival Project.

Assad (1995) believes that much of the observed improvement in life expectancy is due to improved survival chances in the first year of life.

Furthermore, Tubia et al (1994) confirm that, there is still a boy preference in the Arab world. When allowed to survive, the female baby may suffer from abbreviated nursing, inadequate feeding, and lack of attention to infectious disease, which then leads to malnutrition and, ultimately, to an increased risk of death.

BREASTFEEDING:

According to Worthington et al (1981), lactation is an ancient physiological process accomplished by females since the origin of the human race. Today, as in times past, the process of breast-feeding is successfully initiated by at least 99.0% of women who try.

The "Koran" in Islam, had clearly indicated the proper time period for breastfeeding. It is mentioned in the Koran that carrying of the child to his weaning, is a period of thirty months.

Warner et al (1987) state that in the 1980's bottle feeding and the use of artificial, canned and powdered milks were popular in many parts of the world, in spite of the fact that the old tradition of breast-feeding is safer, better, and cheaper. The popularity of bottle feeding is partly due to promotion by international companies, like Nestle's. They continue pushing their products with misleading advertising despite widespread protest. Some countries, like Papua New Guinea, have forbidden the sale of baby bottles without a doctor's prescription.

Whitehead (1995) documents UNICEF and WHO's regimes which support exclusive breastfeeding for the first 4-6 months. In his study he confirms this recommendation. Based on field research in infant dietary energy requirements, he has provided a firm quantitative basis for the widely quoted pediatric view that exclusive breastfeeding should provide sufficient nourishment for the average child until 4-6 months of age.

Wilmoth & Elder (1995) have assessed current breastfeeding promotion strategies in developing countries. Their assessment revealed that breastfeeding and its impact on child survival in developing countries have been well documented. Governments are being urged to encourage breastfeeding through legislation and promotional campaigns. The success of promotional programs depends not only on the interventions themselves but on the acceptance and acquisition of the desired knowledge, skills and behaviors. During the past decade, a variety of strategies have been used in an attempt to promote breastfeeding. These efforts include: (1) modify hospital policies; (2) using social supports; (3) providing incentives; (4) educating mothers and health workers; and (5) initiating legislation and political action to create policies aimed toward healthier infant feeding practices.

Jacobson et al (1996) have studied the reasons for termination of breastfeeding and the length of breastfeeding. Their study concluded that, in third world countries, the length of breastfeeding often has a major influence on child mortality, morbidity and nutritional status. When evaluating the impact of length of breastfeeding the reason why mother terminates breastfeeding is usually not taken into consideration. Jacobson et al's study in 1996 found out that, illness of the child, new pregnancy of the mother and illness of the mother were associated with significantly shorter lactation period compared with children weaned because they were 'healthy' or 'old enough'. These explanations had an impact independent of other determinants for weaning, including ethnic group, mother's age, mother's education, birth order and number of dead siblings. The authors finally suggest that health workers should pay special attention to the encouragement of breastfeeding in connection with illness of the mother or child, these considerations may also be important in the planning of breastfeeding promotion

campaigns. Since premature termination of breastfeeding is associated with new pregnancy, family planning should be part of any breastfeeding promotion program.

Fidler and Costello (1995) believe that infant feeding practices are influenced by many factors including culture, household income, literacy, advice from health care workers and advertising.

In addition, according to (Ibrahim, 1981), women are not the similar in their ability to breastfeed. Simply some women have greater ability to breastfeed than others. This difference is due to both genetic factors as well as simple individual physiological differences.

The first few days after labor are considered crucial, when the milk is formulating, the mother is at recovery stage from labor stress. In addition, she is worried about her ability to breastfeed and to be a good fulfilling mother. These first few days will decide the faith of breastfeeding. If there is a good start, most probably breastfeeding will continue satisfactorily and without major problems for both mother and child. On the other hand, little stress or obstacles could have adverse negative effects on breastfeeding. Preparing the mother to successfully breastfeed should start before delivery through one-to-one as well as group discussions in the MCH clinic. These discussions will help her build a positive attitude towards breastfeeding. (براهيم، ١٩٨١)

In Egypt, the Ministry of Health in cooperation with UNICEF and WHO, 1994 have established a breastfeeding policy. The prime messages of which are the following

- 1- The Egyptian national policy protects and promotes breastfeeding
- 2- The Egyptian national policy protects breastfeeding through the implementation of the WHO international code for marketing of breast milk substitutes. The scope of this code states that "Any food or drink given before complementary feeding is nutritionally required may interfere with the initiation or maintenance of breastfeeding and therefore should neither be promoted nor encouraged for use by infants during this period. Accordingly, the code prohibits the distribution of low

supplies including donations of infant milk formula to health professionals or potential users.

- 3- The Egyptian national policy promotes and supports breastfeeding through the implementation of the 10 steps of the joint WHO/UNICEF statement for successful breastfeeding. The Egyptian policy also calls for:
 - a- Early exclusive from birth up to 4 to 6 months with continued breastfeeding, and introduction of other foods, for two years. It is crucial to note that pro-lacteals interfere with initiation and maintenance of breastfeeding and that there are a few conditions in which supplementary feeds are considered.
 - b- Adequate orientation of health professionals and provision of health education to women concerning benefits and management of breastfeeding.
 - c- Prohibition of use of bottles, teats and pacifiers from birth onwards.
 - d- Establishment of breastfeeding support system within communities using family members, health care providers, key women leaders and non-governmental organizations.
- 4- All health workers should be made aware of the components of the policy and its plan of action.

The Egyptian policy for promotion of breastfeeding necessitates that all pregnant women should be informed about the benefits and management of breastfeeding. This could be achieved through:

- 1- Emotional and physical preparation of mothers for breastfeeding during pregnancy. This approach will ensure successful lactation.
- 2- All mothers and mothers-to-be should be made aware of the factors and practices that help successful breastfeeding.
- 3- Breastfeeding ensures a healthy baby and mother.
- 4- Bottle feeding may lead to serious illness and increase the infant mortality rate (MOH, UNICEF & WHO, 1992)

Advantages of Breast-Feeding for the Child:

In the past decade, research has conclusively documented the significance of breastfeeding for child survival, maternal health, child spacing and lower fertility. The benefits of breastfeeding are many, and its costs are low. (Ramalingaswami, 1988)

Breastfeeding is the best start for the newborn. It guarantees good health and nutrition during infancy and early childhood. Breastfeeding Hospital Initiative (BFHI) is a trial that UNICEF and WHO implements to make sure that all hospitals provide the proper advice and support to mothers who want to make a decision about breastfeeding their children.

(منظمة الأمم المتحدة للطفولة. ١٩٩٥)

According to Lawrence (1980), mortality is less at all ages for breast-fed infants. Overwhelming evidence of the impact of human milk on mortality is displayed in the widely publicized statistics currently available on third-world countries where infant formulas are rapidly replacing human milk. The death rate is higher, malnutrition starts earlier and is more severe, and the incidence of infection is greater in formula-fed infants. The incidence of illness, or morbidity, among artificially fed infants in third world countries is equally as dramatic as the mortality. Lawrence (1980) has proved that, breastfeeding is associated with significantly less illness during the first year of life. It also confirmed that breast-feeding was associated with a higher level of parental education, but controlling for that factor, the difference in morbidity is even more significant.

Breastfeeding has many advantages, among which are the following:

1- Anti-infective properties of breast milk:

Worthington et al (1981) believe that around the turn of the century there was little knowledge of microbiology or of immunology, and bottle-fed infants suffered from much higher incidence of diarrhea and acute gastrointestinal infection. For many years researchers have reported that breast-fed infants are more resistant to gastrointestinal infections, particularly those caused by *Escherichia coli* organisms. Studies have proved that breast milk contains factors for the control of many bacterial and viral infections. Specific antibodies to many potential fatal diseases have been found in

breast milk, as well as significant quantities of other immune components. There is evidence that the protection conferred by breast milk diminishes upon weaning. So the anti-infective properties of breast milk strongly contribute to the superiority of lactation in all cultures, developed as well as developing nations. (Worthington et al, 1981)

They add that the neonate does not have sufficient innate defenses to protect himself against the highly contaminated environments he enters from the usually sterile environment of the uterus. Secretory IgA immunoglobulins are found in human milk and provide local protection on the mucous membrane of the gastrointestinal tract. The lowered incidence of intestinal and respiratory infections seen in breast-fed infants has been recognized. It has been established by other investigations that the mammary glands and their secretion of milk are of importance in protecting the infant, not only through the colostrum but through mature milk from birth through the early months of life. Milk immunization is a dynamic process because a mother's milk has been found to contain antibody to virtually all her infant's strains of intestinal flora (Worthington, et al, 1981)

Lawrence (1980) adds that the properties of human milk do appear to control infection. There are specific disease entities that have shown clear differential in the incidence between infants fed cow's milk and those fed human milk. Breast milk IgA has antitoxin activity against enterotoxins of *E. Coli* and *Vibrio cholera*, which may be significant in preventing infantile diarrhea. Breast milk contains antibodies against poliovirus, coxsackievirus, echovirus, influenza virus, reovirus, and rhinovirus. It has been confirmed that human milk inhibits the growth of these viruses in tissue culture. In addition to the antinfective properties of breast milk, breastfeeding also protects the newborn from allergies.

Bax et al (1990) state that human milk contains a growth factor for *Lactobacillus bifidus*, which facilitates colonization. The acetic and lactic acids produced increase the acidity of the intestinal contents and inhibit the growth of pathogens. Whey-soluble proteins include lactoferrin and the enzyme lysozyme. Lactoferrin encourages iron absorption and lysozyme inhibits bacterial growth.

2- Nutritional value of breast milk:

Diaz et al (1995) believe that when mothers and infants are healthy, breast milk is sufficient to support adequate infant growth and health during first months of life. The main variables that affect the duration of breastfeeding, nutrition and suckling frequency, are susceptible to interventions by health services. The results of their work reinforce the need to care for maternal nutrition during pregnancy and to provide the support that women need to sustain a high suckling frequency.

Bax et al (1990) also believe that, breastfeeding is the safest method of feeding in poorly developed countries but, if maternal nutrition is inadequate, supplements from local foods will probably be needed for the mother during pregnancy and lactation and for the baby from three months onwards to prevent under-nutrition.

Finger et al (1992) add that breastfeeding is well known for its nutritional benefits for the child. Yet promotion of breastfeeding for any of its benefits- either as a contraceptive method or for its nutritional value- is generally not a priority for medical staff in many hospitals.

Breast milk can and should provide almost all the nutritional requirements for the growing infant up to the age of six months. Even in the second year of life it can be an important supplement of nutrients, including protein, fatty acids, vitamins and calories (Kleinman et al, 1984)

Furthermore, Worthington et al (1981), believe that one of the main advantage of breast-feeding is freedom from "formulogenic disease". The complication of improper dilution such as incorrect caloric density and excessive renal solute load are not concerns for breast-fed babies.

3- Impact of breast milk on infant's growth and development:

The effects of undernutrition on human well-being and on socioeconomic development are varied and far-reaching. In infants and young children, undernutrition as well as

being part of the malnutrition-infection complex is also associated with growth retardation and reduced physical activity, impaired intellectual development and cognitive abilities and increased morbidity and mortality. (WHO, ICPD 1994)

Worthington et al (1981), state in their report that bottle-fed and breast fed infants follow similar growth curves from birth till the third month of age. From the fourth month on, the bottle-fed infant gains weight at a faster rate. The growth of the breast-fed infant, although slower, continues at a sufficient rate for size discrepancies to disappear in the preschool period. Long-term studies suggest that this slow steady growth pattern may be more desirable for overall health and well-being of the young child.

According to Lawrence et al, study in (1980) early assessment of newborns in the first or second week of life shows more body activity with breast-fed than bottle-fed infants.

Growth monitoring is crucial. Progress in physical growth is one of the criteria used to assess the nutritional status of the population and of individual children. Children who are undernourished are shorter and weigh less than their well-nourished peers. The rate of gain in weight is affected more than is the rate of gain in height, but if the nutritional deficit is severe enough and continues long enough, linear growth will be retarded or may cease. Children grow at their individual predictable rates, the range of growth rates at any age is large.

(Pipes and Trahms, 1993)

According to Warner et al (1987), at best, baby weighing serves a valuable purpose. It helps health workers and mothers to discover problems in children's growth and correct them before they become severe. So baby weighing helps to protect and improve children's health. Worthington et al (1981) believe that the health worker should weigh the baby each month and explain the weight and what it means to the mother. She should give appropriate advice and demonstrations to mother about child health and nutrition. If possible, provide at the same time and place vaccination, early identification and treatment of health problems and family planning services

Senanayake et al (1997) presume that the design of the growth chart has a powerful effect on maternal comprehension of growth patterns. Length of schooling rather than literacy alone is a marker of a comprehending mother. The policy implications of their findings are that governments and agencies may need to redesign parent held growth charts to achieve better comprehension by mothers.

Studies conducted in Egypt by Nassar et al (1993) have found maternal education level independent of household income, to be positively related to better nutrition status of children and to lower infant mortality.

Another study conducted by Melville et al (1995) has concluded that community health volunteers can play an important role in primary health care programs in developing countries. One of the fields where they could be of great benefit is children growth monitoring.

Cai et al (1994), have studied the relationship between breastfeeding and infant physical development. Their study revealed that breastfeeding can promote infant physical development and growth. The analysis of their results revealed that protein intake with breast milk as its main source brought about infants to develop physically tall and lean at first, which might support the theory that protein intake affects more on their development and growth.

4- Breast milk ant-allergic properties:

According to Worthington et al (1981), breast-feeding is to be encouraged among infants at high risk for allergic conditions. Breast milk and an allergen avoidance diet when solids are introduced have shown to decrease the incidence of allergic response among infants in the high risk category. Allergy to breast milk is uncommon; some researchers question whether it exists at all.

Bax et al (1990), further add that asthma and eczema appear to be less common in breast-fed infants though the subject is still highly controversial. However, sensitization

to food allergies can occur in fully breast-fed infants, presumably because allergens ingested by mothers are excreted in milk.

5- Impact of breast milk on psychological development:

Worthington et al (1981) believe that, the period of breast-feeding is considered the period of “exterior gestation” because it provides continuity with the intrauterine environment while providing security and nourishment. It is now known that the experiences of the first few hours of life can be critical to the relationship established between the child and his parents. Breast-feeding, particularly if begun soon after birth, promotes strong emotional ties while meeting the infant’s most basic physical need.

In addition, Lawrence (1980) believes that there is critical impact in return to breast-feeding in modern cultures which rests with the issue of the mother’s role and her perception of breastfeeding as a biological act. The maternal influence include psychological reactions during nursing, long-term psychological effects, maternal behavior, sexual behavior, and attitudes toward men. All professionals providing support care in perinatal period will also need to have a clear view not only of the biological benefits but also of their own psychological hang-ups regarding the breast itself. It has been generally accepted by proponents of breastfeeding, that the major reason to breastfeed is to provide that special relationship and closeness that accompanies nursing. Some researchers have identified the devastating effects on the infant when he is deprived of long-term maternal contact. These investigators demonstrated major deficits in development, both mental and motor, as well as general failure to thrive.

Lawrence’s study in 1995, revealed that the direct eye contact that is natural to breast-feeding fosters bonding, and the close body contact promotes a sense of security in the child. These advantages, so natural to breastfeeding, are likely to be absent from bottle feeding unless some of the natural techniques associated with breastfeeding are adopted (Lawrence, 1995)

She further pointed out that a woman's joy in and acceptance of the female biological role in life may be an important factor in her psycho-sexual behavior, which includes lactation. She found that women who wished to bottle-feed also believed that the male role was the more satisfying role. Nulliparous women who planned to breast-feed their children more often stated their satisfaction with the female role. (Lawrence, 1995)

Breastfeeding behavior has been related to woman's role in life as influenced by her cultural locale, education, social class, and work. In addition, the attitudes of the husband, close family, and friends have an influence on the mother's attitude towards breastfeeding. More important, their attitudes influence the rate of success and the age of weaning more negatively than positively. (Lawrence, 1995)

Bax et al (1990) believe that most mothers find suckling an infant an enjoyable experience. Satisfaction may be derived from the feeling that the infant is being nourished from the mother's own body. Skin-to-skin physical contact is pleasurable to mother and infant and cements a bond between them. On the other hand, they states that, although most of us feel instinctively that breast-feeding has emotional benefits there is very little hard evidence to support this. Probably a baby who is bottle-fed in a loving and caring manner is just as likely to fare well emotionally as a breast-fed infant.

According to UNICEF and WHO, 1992, and in conclusion, breast milk is best because:

1-The nutrients in breastmilk are uniquely suitable for the normal and preterm baby.

Under normal circumstances breast milk provides all energy and nutrients needed by the infant for the first four to six months of life. Afterwards, additional food must be introduced so that the infant gradually and progressively adapts to the full adult diet. Due to several biologic and environmental factors, the weaning period is one of the most critical periods in child's life particularly in developing countries. Klienman et al (1984), add that breastfeeding has central purposes. It obviously plays an essential role in nutrition, but it also protects the infant from exposure to infection which is more likely with bottle feeding in unhygienic circumstances. It is the major facet in the natural regulation of human fertility, and has an important function in mother-child bonding.

- 2-Colostrum and breast milk contain antibodies, cells, and anti-infective substances which are unique, specific, and cannot be otherwise provided.
 - 3-Breast milk feeding is associated with lower infant mortality and morbidity, especially in areas where infant mortality is high.
 - 4-Breast-feeding is cheaper.
 - 5-Breast-feeding ensures good mother/baby skin contact, which may facilitate bonding.
 - 6-Exclusive and frequent breast-feeding helps family spacing until ovulation and menstruation begin again.
 - 7 Breast-feeding is much easier for the mother and family.
 - 8-Breast-feeding may be beneficial economically by reducing imports in a country which does not manufacture safe infant formula.
 - 9- Breast-feeding helps the mother's recovery of normal health after delivery.
 - 10- Breast-feeding is easier to learn and more hygienic than any other method
- (UNICEF&WHO, 1992)

UNICEF's regime indicates that breast milk should be the exclusive food for four to six months, after which safe, suitable supplements should be added for up to two years to prevent growth faltering.

(UNICEF, 1993)

Furthermore, Gale and Martyn (1996) examined "the relationship between breastfeeding and adult intelligence". They concluded that although earlier studies showed that children who were breastfed as babies gain higher scores on intelligence tests than those who were bottle-fed, the mechanisms that link type of feeding in early life with later intelligence may have more to do with the child's social environment than with the nutritional qualities of milk.

Worthington et al (1981) documents that the decision to breast-feed is a significant one and is usually made relatively early in the pregnancy. The establishment and maintenance of lactation in the human are determined by at least three factors

- 1) The anatomical structure of the mammary tissue and the adequate development of alveoli, ducts, and nipples.

- 2) The initiation and maintenance of milk secretion.
- 3) The ejection or propulsion of milk from the alveoli to the nipple.

According to Kemm and close (1995), the infant's ability to suck at the mother's breast, which is affected by the maturity and physical condition of the infant, is an important condition for establishing breastfeeding. The infant's behavioral capacity and responses to the mother, and especially her perception and interpretation of this behavior, is also thought to affect the breastfeeding relationship. The method of infant feeding is an important facet of child-care. They believe that, the nurse is in a very important position within the health care delivery system to promote successful breastfeeding. It is through antenatal classes and counseling that the nurse can be most effective in promoting breastfeeding and helping the woman to acquire the knowledge required for successful breastfeeding. After the birth of the infant, in the immediate postpartum period, it is the nurse who is instrumental in fostering the conditions leading to successful initiation of a satisfying breastfeeding experience between a woman and her newborn.

It is widely accepted that breastfeeding is more than an instinctive or biological activity on the part of the mother. Rather, it is now recognized that breastfeeding is a complex physiological and behavioral pattern involving both mother and infant.

The infant's ability to suck at the mother's breast, which is affected by the maturity and physical condition of the infant, is an important condition for establishing breastfeeding. The infant's behavioral capacity and responses to the mother, and especially her perception and interpretation of this behavior, is also thought to affect the breastfeeding relationship. (Kemm and close, 1995)

Maternal Benefits of Breastfeeding:

1- Involution of the uterus:

One of the earliest documented maternal benefits of breast-feeding is the effect of oxytocin on involution of the uterus. Early breast-feeding, even on the delivery table,

stimulates contractions of the uterus that help control blood loss. An increased incidence of thrombo-embolism has been noted among women who do not lactate. (Worthington et al, 1981)

2- breastfeeding may also offer women **psychological benefits** through the emotional bond that develops between the breastfed infant and its mother. (Ramalingaswami, 1988)

3- Protection against mammary carcinoma:

Worthington et al, (1981) state that, it has been reported that failure to lactate might be a contributing factor in the increased incidence of mammary carcinoma.

4- Economy:

Bax et al (1990) believe that although breast-feeding involves the cost of extra food for the mother it is cheapest than the cost of artificial milk, bottles, teats and sterilizing equipment. However, the cost factor appears not to influence mothers' choice, since the least well-off mothers are least likely to breast-feed.

5- Convenience:

According to Bax et al (1990), most mothers find that having breast milk available to all times is far easier than making up bottles. One advantage is that the father cannot take over if the mother is tired, but there are other ways in which fathers can become involved with child care to help the mother. On the other hand, they found out that many mothers lack confidence in their own ability to breastfeed. They need encouragement and practical support of fathers, health workers, relatives and friends, women groups, the mass media, trade unions and employers.

They add that, mothers who are not confident that they have enough breast-milk often give their babies other foods or drinks in the first few months of life. But this means that the baby sucks at the breast less often. So less breast-milk is produced. To stop this happening, mothers need to be reassured that they can feed their young babies properly with breast-milk alone. (Bax et al, 1990)

6- Ovulation suppression:

In addition, Worthington et al (1981), also believe that the stimulation of the nipples and resulting secretion of prolactin suppress ovulation in many women, particularly when supplements and solids are not offered. This is believed to be major significance in promoting short-term child spacing in developing countries.

McCann and Potter (1994) add that, women who are fully breastfeeding, that is, providing no supplemental foods, rarely start ovulating before six months postpartum. For this reason, the breastfeeding itself can act as the backup method of contraception in the first six months. On the other hand, breastfeeding women who are providing supplemental foods and/or have resumed menses have a higher risk of ovulation and therefore should use another backup method as carefully as non-breastfeeding women.

Ramalingaswami (1988), believe that in parts of the developing world where breastfeeding is declining and family planning programs are not widely used, an investment in promoting breastfeeding and the Lactational Amenohoea Method for child spacing is an effective and inexpensive way to reduce fertility, and it complements other family planning methods. An increase in breastfeeding could reduce the burden on family planning and maternal and child health programs due to the decreases in fertility and illness.

Kleinman et al (1984) also believed that chances of ovulation, and consequently of pregnancy, are much higher in women in developed countries than among women from developing societies at exactly comparable stages of lactation. The reason for this difference may be the patterns of breastfeeding and whether the mother feeds on demand or according to an artificial schedule.

In Egypt, in many rural communities it has been observed that in absence of any contraceptive method, when the mother breastfeed her baby the interval between two pregnancies is lthan if she does not.

(براهيم، ١٩٨١)

Finger et al (1992) believe that, when performed correctly as the Lactational Amenorrhea Method, breastfeeding provides contraception that is 98.0 percent effective. For centuries, women have noticed the natural protection against pregnancy from breastfeeding. Yet until recently, family planning providers have been slow to promote its contraceptive benefits.

Breastfeeding can assure effective contraception only until any of the following occurs: the mother starts to menstruate again, she gives her infant a significant amount of food other than breast-milk, or the baby reaches six months of age. Breastfeeding suppresses fertility by inhibiting ovulation, and this state of infertility is achieved by a sufficient degree of nipple stimulation from breastfeeding. If the guidelines are followed, LAM is 98.0 percent effective in preventing pregnancy for up to six months. Another contraceptive method should be used when any of the three conditions occurs that signal the conclusion of LAM's contraceptive protection. Counseling constitutes an important element in LAM. Field research indicate that mother-to mother approach has made a significant impact on use of LAM. This technique, known as "peer counseling", has been used for years to promote breastfeeding for child health purposes. Some experts think that promoting LAM as an alternative to modern methods is not realistic, despite the physiological evidence and findings from clinical trials (Finger et al. 1992)

Appositely, Lawrence (1980), confirms that of the lactating women not using contraception, more than half will become pregnant during the first 9 months of lactation. The amount and frequency of sucking are closely related to the continued amenorrhea in most women. When a totally breast-fed infant sleeps through the night at an early age, requiring no sucking for 6 hours or so at night, the suppressive effect on menses diminishes. Although lactation provides some degree of protection early in the postpartum period, a woman who is seriously concerned about avoiding conception should be informed of her options. There are potential adverse effects of oral contraceptives on milk production, uterine involution, and growth and development in a breast-fed infant.

Whether for family planning, child survival, or nutrition and weaning program, consistent messages across sectors are necessary for successful breastfeeding and the effective use of LAM. Providers are encouraged to adapt or modify these materials to meet specific interests, cultural variations, local terminology, and available resources of individual programs. (Ibbotson et al, 1994)

Factors Associated With Successful Breastfeeding:

According to Worthington et al (1981), these factors are:

- 1- Influences on a woman's decision to breastfeed, e.g. sociological, cultural and psychological. Emotional support both ante-natal and postnatal periods, mainly from husbands, parents and friends, is also crucial. Health care systems and health professionals also influence women's beliefs, choices and decisions.
- 2- Preparation for breastfeeding. This preparation is in the form of **physical preparation** which involves various actions taken by the woman to prepare her nipples and breast for the suckling infant. These preparations consist of nipple conditioning to toughen the nipples, and nipple rolling exercises to increase nipple protrusibility. There is also the **educational preparation** which is another essential component to a successful outcome in breastfeeding. The woman planning to breastfeed has certain educational needs. Prenatal classes, printed materials, audiovisual presentations, advertising, and information from health professionals, family and friends constitute the main sources of formal and informal educational preparation. Prenatal classes are one of the most important means of formal education for breastfeeding and are known to have positive effects, depending on the quality of information presented. It was found that lack of information was related to all the reasons given by the mothers for early discontinuation of breastfeeding. The quality of information is related to successful breastfeeding.
- 3- Initial contact and feeding experiences with the newborn infant. The benefits of early initiation of breastfeeding are many, among which are benefits for the infant, mother, infant-mother dyad and include physical, immunological, and psychological advantages.
- 4- The immediate postpartum environments. It is frequently in the early postpartum period that the woman first experiences difficulties related to breastfeeding.

Prevention of breastfeeding problems, which often lead to discouragement and discontinuation of breastfeeding, is the role of the nurse in the ante-natal period. The nurse's role may be accomplished through prenatal classes and/or through one-to-one interaction of the nurse with the client. (Worthington et al , 1981)

In addition they believe that the responsibility of ensuring success of breastfeeding is shared between professional services which include nurses, midwives and health visitors, and community support from family and women's groups and society itself. The nurse involved in the care of the nursing mother should be aware of the problems associated with breastfeeding, the physiological principles of lactation, and of the best means of providing support. This may be by knowledgeable counseling and advice, or may be by referral to lay counselors. It is highly recommended that a change in the pattern of postnatal care is required; not necessarily the provision of more resource, but a rational reorganization of the existing professional and community resources, may be an effective, practical and economical solution. (Worthington et al , 1981)

They add that the best time for the first feeding, providing that mother and baby are physically able, is within half hour after birth. This can even be accomplished on the delivery table. The sucking reflex is strongest 20 to 30 minutes after birth. If the infant is not fed at this time, the vigorous sucking reflex diminishes and does not return until the end of the second day of life. Work on maternal-infant bonding shows that close contact with the infant during the first 45 minutes of life is critical to the type of achievement that is eventually formed between the nursing pair.

The infant's ability to suck at the mother's breast, which is affected by the maturity and physical condition of the infant, is an important condition for establishing breastfeeding. The infant's behavioral capacity and responses to the mother, and especially her perception and interpretation of this behavior, is also thought to affect the breastfeeding relationship. (Kemmer and Close, 1995)

Silva et al (1995) have developed a breastfeeding index, they called it the "Discontinuity Index (DI)", which measures the percentage of infants who were

exclusively breastfed (EBF) at the beginning of a given age interval and had abandoned this mode of feeding at its end. They believe that discontinuity indices are useful complements to prevalence rates in epidemiological studies of breastfeeding. They add that the separate analysis of discontinuation in different periods can be highly useful when comparing trends and in the study of the impact of breastfeeding promotion programs focused on different age intervals.

Another study conducted by Leff et al (1995), examined maternal perceptions of successful breastfeeding. In this study, mothers described successful breastfeeding as a complex interactive process resulting in mutual satisfaction of maternal and infant needs. This concept broadens definitions of successful breastfeeding often used by health professionals, which emphasize breastfeeding duration and nutritional aspects.

Wang YX et al conducted a study in 1994 to determine the effect of early suckling and emptying the breasts after nursing on exclusive breastfeeding. The results of the study showed that the early suckling could help the newborns to latch on the breast readily and correctly than the newborns in control group and enhance the mothers' confidence on exclusive breastfeeding. Emptying the breasts after nursing tended to increase the volume of breast milk; thereby facilitating the exclusive breastfeeding rate during four months after birth. Accordingly, early suckling and emptying the breast after nursing are to be recommended as important measures to supporting breastfeeding. (Wang et al, 1994)

In addition, Pezzati et al (1994), have studied the influence of early mother-infant contact in the delivery room on short or long term breastfeeding. The results of the study suggest a positive influence of early mother-child contact on breast-feeding and on its duration. They further add that such behavior will bring benefits to both mother and child.

According to Lawrence (1980), the incidence of illness, or morbidity, among artificially fed infants in third world countries is equally as dramatic as the mortality. Breast-feeding is associated with significantly less illness during the first year of life. He

believes that breastfeeding is associated with a higher level of prenatal education, but controlling for that factor, the difference in morbidity is even more significant. In the United States, diarrhoeal disease is uncommon in breast-fed infants, and the treatment is usually to continue to breast-feed. Similarly, breastfed infants have fewer episodes of respiratory illness and otitis media. When afflicted with such febrile illness, the breast-fed infant does not become dehydrated and rapidly toxic.

In conclusion, breast-feeding is the most cost-effective means of preventing malnutrition and infant mortality, particularly that due to infectious diseases. Its promotion, protection and support, as well as efforts to combat influences that interfere with it, are therefore crucially important health interventions. Efforts must be made to help women to carry out this vitally important and bonding activity, and to ensure that they are not hampered in doing so. Exclusive and frequent breast-feeding during the first 4-6 months of the infant's life prolongs Lactational amenorrhoea which contributes to child-spacing and thus leads to a reduction in child mortality. (WHO, ICPD, 1994)

Mother Nutrition During lactation:

Lawrence (1980) studied diet and dietary supplements for the mother and infant. He comments that most writings for the nursing mother make the sweeping statement that maternal diet during lactation should be simple and well balanced with several glasses of milk and extra calories. On the other hand, all over the world women adequate and even abundant milk on very inadequate diets. An inadequate diet seems to affect volume and not the composition because the breast depletes the maternal stores of nutrients to maintain the proper composition of milk. The quantity, protein content, and calcium content of milk are independent of maternal status and diet. Amino acids, lysines and methionine, certain fatty acids, and water-soluble vitamin contents vary with intake.

In addition, Lust et al (1996) have assessed relationships among components of maternal diet and the presence of colic symptoms among exclusively breast-fed infants aged < or = 4 months. The results of their study provide initial evidence that maternal

intake of cruciferous vegetables, cow's milk, onion, or chocolate during exclusive breast-feeding is associated with colic symptoms in young infants.

Role of IEC and Training In Breastfeeding Promotion:

Lettenmaier, et al state in their counseling guide that well-designed information, education and communication campaigns can greatly affect the prevalence and duration of breastfeeding. Such efforts can educate and motivate mothers, health care providers, community leaders and national policy-makers by presenting the benefits of breastfeeding and discouraging the early introduction of unnecessary supplements. Radio, television, newspapers, magazines and even comic books have been used successfully to promote breastfeeding. (Lettenmaier et al, 1987)

They add that ideally, a commitment should be made to a long-range communication strategy, which, whenever possible, links breastfeeding promotion to direct support of mothers and to other maternal and child health programs, including nutrition, diarrhoeal disease control, family planning and growth monitoring.

Kemm and Close (1995) indicate that, It is widely accepted that breastfeeding is more than an instinctive or biological activity on the part of the mother. Rather, it is now recognized that breastfeeding is a complex physiological and behavioral pattern involving both mother and infant.

National Policies and Breastfeeding:

"Breast is best" for mother and child, and therefore ultimately for the family. This policy is widely accepted now by health organizations and governments world wide. In 1982, WHO and UNICEF drew up a code which banned the advertising and promotion of formula milk in an effort to curb the deleterious effects of bottle feeding in developing countries. (UNICEF & WHO, 1993)

The responsibility of ensuring success of breastfeeding is shared between professional services which include nurses, midwives and health visitors, and community support from family and women's groups and society itself. The nurse involved in the care of

the nursing mother should be aware of the problems associated with breastfeeding, the physiological principles of lactation, and of the best means of providing support. This may be by knowledgeable counseling and advice, or may be by referral to lay counselors. It is highly recommended that a change in the pattern of postnatal care is required; not necessarily the provision of more resource, but a rational reorganization of the existing professional and community resources, may be an effective, practical and economical solution. (Kemmm and Close, 1995)

Contraindications to Lactation:

Heart disease, diabetes, hepatitis, nephrosis, and most other chronic medical conditions are not in themselves a contraindication to breast-feeding. Usually, if the conditions can be managed well enough to allow successful termination of pregnancy, breast-feeding may be the feeding method of choice because it is less tiring for the mother. On the other hand, a mother with a diagnosis of breast cancer should not nurse her infant in the interest of having definitive treatment immediately.

In addition, the transmission of hepatitis B from mothers whose blood contains hepatitis B antigen to their infants has been described in several parts of the world. Such transmission of an infectious agent from mother to infant is termed vertical transmission. The mode of transmission is transplacentally in utero, at delivery, or shortly after delivery. (Lawrence, 1980)

Common Reasons for Failure of Lactation:

Worthington et al, (1980), believe that the most common reasons for failure of lactation are the following:

1- Probably the chief reason for failure of breast-feeding is a poor maternal attitude toward lactation in the first place. The mother who does not sincerely want to breast-feed her infant but agrees to do so to placate her family, friends, or nurse will have a very difficult time. Fear, worry, distraction, anger, and other such emotions have a potent effect on the let-down reflex.

2- Failure to establish adequate milk supply by frequent feeding on demand is a great deferent to successful lactation

3- Another common reason for failure of lactation is lack of information and lack of support for the mother. Many women do not have the support of friends or relatives who have successfully breast-fed infants. New breast-feeding mothers may have fears of the milk supply being too low in quality or quantity to support the infant's growth requirements.

In addition, Bax et al (1990) gave the following reasons why some mothers prefer bottle-feeding:

- 1- Belief that they have insufficient breast milk.
- 2- Previous experience of breast-feeding unsuccessful.
- 3- Revulsion from idea of breast-feeding.
- 4- Embarrassed by breast-feeding.
- 5- Too tiring - wish to go out or go back to work.
- 6- Fear of cracked nipples and painful encouragement.
- 7- Other people can help with feeding

Some Potential Problems with Breast-feeding:

UNICEF and WHO, (1992) have concluded breastfeeding potential problems in the following:

- 1- Each year 500,000 mothers die in childbirth, and many other babies are also separated from their mothers. A safe foster-mother or artificial feeding is required for each of these babies.
- 2- Exclusive breast-feeding is ideal for four months, but growth faltering may then occur unless safe, suitable supplements are added to breast-feeding thereafter. Occasionally, growth faltering occurs before four months if the volume of breast-milk supplied is inadequate- hence the need for growth monitoring
- 3- Rare genetic diseases preclude normal breast-feeding (e.g. phenyl-ketouria, galactosemia).
- 4- Breast-milk may contain drugs, medicaments, chemicals, and isotopes in specific and usually rare situations
- 5- Serious illness in the mother, including AIDS infection, requires an evaluation of risks to mother and child. Breast-feeding by mother is the ideal, but a foster-mother

in a developing country or artificial feeding where safe, economical, and available may have to be used.

- 6- Some mothers for economic or social reasons opt not to breast-feed even when fully informed of the hazards of this procedure. Better health education, longer paid maternity leave, guarantee of re-employment, and create provision at workplaces all help tip the balance the correct way.

Although exclusive breastfeeding for six months is likely to be beneficial for infant health, according to Cohen et al (1995), mothers often cite time pressures as a reason to introduce other foods. In this study, conducted in California U.S.A., many women introduced solids to their infants prior to 6 months because they believed that infants should 'learn' how to eat other foods, to 'acclimate' the stomach and learn to differentiate flavors. The researchers finally conclude that time constraints are not a barrier to exclusive breastfeeding in the population under study, although they may be perceived as a barrier.

Mbuli et al (1993), had practically proved through their study entitled "Working and Breastfeeding" that breastfeeding and working had not to be in conflict. On the other hand, they documented in their research various successful breastfeeding experiences for working women in Sawziland, United Kingdom, Brazil and Burkina Faso. These working women have managed to breastfeed their children for two years.

According to Vial et al (1989), mothers' work did not affect the decision to initiate breastfeeding, as most mothers did so, but it did affect its duration, shifting working mothers to the use of mixed breastfeeding more frequently than non-working mothers

Bax et al (1990), believed that there are some early problems with breast-feeding: among which are the following:

- 1- Retracted nipples.
- 2- Difficulty fixing baby on breast.
- 3- Painful nipples.
- 4- Engorgement due to increased blood flow and accumulation of milk.

5- Mastitis.

6- Breast-milk Jaundice.

Hawthorne's study in (1994) confirms that primiparous women have a higher breastfeeding failure rate. Women who gave later first feeds, or who were offered supplementary feeds in the postnatal ward, were more likely to be bottle-feeding at eight weeks.

"International Child Health" published by UNICEF and WHO in 1992, summarize breastfeeding policy and practice as follows:

- 1-Promotion, protection, and support for breast-feeding is of critical importance to the saving of life and health of large numbers of babies worldwide, especially in developing countries.
- 2-Positive, easily understood programs should be agreed to by all involved at the national, regional, district, and community level. These must be acceptable to the community and their use encouraged by all advisers.
- 3-This is not simply a health or nutritional matter, but needs political and mass-media support nationally, along with similar support from local equivalents
- 4-The ten-point plan for maternity facilities is satisfactory, but a similar plan is needed for births outside institutions and for the social side of breast-feeding.
- 5- Health workers of all types must combine their efforts to produce optimal results.
- 6-All infants must be weighted regularly to detect growth faltering. Then, or at four to six months in any case, safe and suitable supplementary feeding, preferably from a sterile cup, is needed.
- 7-Looking to the future, local women should have a significant input into the planning and design of antenatal and postnatal clinics, wards, labor rooms, and the general ambiance surrounding births.
- 8-Pediatricians as advocates for babies and children should play leading roles in initiating and pursuing support for lactating women and the breast-feeding of babies
- 9-Some babies will be formula-fed or foster-mothered for a variety of reasons. It is essential that all health workers be able to do this safely and as economically as possible.(UNICEF, 1992)

Isabella & Isabella (1994) undertook a study to find correlates of successful breastfeeding in relation to social and personal factors. They found out that the most prevalent problem encountered, by mothers under study, during the first postpartum month was a concern of inadequate milk supply. In addition they concluded that husbands and grandmothers provided the greatest degree of emotional and instrumental support.

In addition, according to "Facts and Figures" report published by UNICEF in 1996, breastfeeding averts more than 6 million child deaths annually. Over 1 million children die each year, and millions more suffer impaired development because they are not adequately breastfed.

In Egypt, in an effort to promote optimal child survival and birth spacing, mothers should be encouraged to :

- 1- Begin breastfeeding as soon as possible after the child is born.
- 2- Breastfeed exclusively until the baby is 4 to 6 months old.
- 3- Breastfeed frequently, whenever the infant is hungry, both day and night.
- 4- Continue to breastfeed, even if the mother or the baby become ill.
- 5- Avoid using a bottle, pacifiers (dummies) or other nipples
- 6- Continue to breastfeed while introducing supplement or semi-solid foods.
- 7- Eat sufficient quantities of a variety of foods (جمعية أصدقاء لبن الأم، ١٩٨٤)

According to Nassar et al (1993), there are important differences in feeding practices of children under 2 years of age between rural and urban population and between general urban population and the less privileged population of Cairo, Giza and Alexandria. Children in rural areas are exclusively breast fed longer and completely weaned at a later age than the general population of urban children. The pattern of feeding in early childhood in less privileged urban areas is closer to the general pattern than the general urban pattern. These differences suggest that among rural and less privileged urban mothers, traditional patterns remain influential or that the availability of weaning foods, either actual or in terms of cost, is less.

Millions of lives could be saved by encouraging a return to exclusive breastfeeding for the baby's first four to six months and by regular monitoring of children's growth, which enables mothers to detect the first signs of trouble and take steps to prevent further deterioration. (UNICEF, 1993)

Finally, Ramalingaswami (1988) recommends that immunization programs should not miss the opportunity to counsel mothers on breastfeeding's anti-infective and protective effects. Family planning programs should promote breastfeeding for child spacing and provide breastfeeding mothers with appropriate, complementary family planning options. Guidelines are available to help primary health care and family planning programs support breastfeeding.

Introduction of Solid Food:

According to Bax et al (1990), introduction of solid foods before the age of three months has no proven nutritional advantage and evidence suggests that it may predispose to the development of obesity and allergy in addition to increase the risk of hypernatraemia due to high solute load.

Furthermore, UNICEF and WHO policies are built on the fact that, before the age of four months, breastfed babies do not need any juices, herbal drinks or water, as breast milk contains enough water and vitamins. Complementary food should be added only after 4 months and not later than 7 months, starting with small amounts and increased gradually. The food should be offered by spoon and drinks by cup (MOH, UNICEF & WHO, 1994)

The World Health Organization and UNICEF currently recommend to start weaning between four and six months and no later than six months with the gradual introduction of solid food. However, some studies show that voluntary exclusive breastfeeding for about nine months is feasible and can sustain adequate weight gain and iron status in infants. Borresen believes that in developing countries, health authorities and non-governmental organizations should actively endorse exclusive breastfeeding for eight to nine months to protect infants against malnutrition and infections. (Borresen, 1995)

Bohler and Bergstrim (1996), have studied child growth during weaning and its dependence on whether mother is pregnant again or not. They have found out that children who stopped breastfeeding during their mother's subsequent pregnancy showed a reduced growth rate during the last months before termination of breastfeeding when compared to children weaned at the same age, but from non-pregnant mothers, and when compared to children who continued breastfeeding.

Moreover, according to Nassar et al (1993), one of the main factors which cause inadequacy of the child diet in the weaning period is that it is mostly part of the family diet which is mostly vegetarian with high amount of dietary fibers. Also gruel, specially prepared for the child from cereals or both cereals and legumes, become bulky and of high viscosity by cooking. The mother resorts to more dilution to keep it semi-solid with resulting lowering of energy and nutrient density.

Abul-Fadl (1989) stated that "It is evident from recent studies that there is a peak age for the acquisition of the skill of weaning and like any other learning skill if not learnt at the proper time we may have difficulties in acquiring it. Late introduction of supplementary food (after 6 months) is not only a consequence of too early and insufficient provision of supplementary food under unhygienic condition, but perhaps of equal importance is the failure to stimulate the early acceptance of a varied eating patterns during the weaning process.

(جمعية أصدقاء لبن الأم، ١٩٨٩)

Lawrence (1980) suggests that, the infant is ready to explore new feeding experience around 6 months old. Feeding is an important social as well as nutritional encounter. Eating solids and learning to drink from a cup are important social achievements as well. That doesn't mean the infant is taken from the breast, but his diet is expanded and now includes solid foods, other liquids, and breast milk. Gradually replacing one feeding at a time with solids or a bottle or cup, depending on the infant's age and stage of development, is usually preferable. After the adjustment has been made to on

substitute feeding, then a second feeding is replaced with a substitute, usually at the opposite time of day. This process is continued until only the morning and night feedings remain.

He believes that diarrheas are strongly associated with weaning not only because of the introduction of other foods, but also because of the loss of the protective properties of human milk. In well-nourished mothers and their infants, diarrhea does not occur from controlled gradual weaning unless there is a milk allergy or metabolic disorder in the infant. (Lawrence, 1980)

In addition Worthington et al (1981), stated that sooner or later, baby will begin to indicate that he is ready for something else to eat. He will eagerly accept the breast but will look around in obvious expectation of more when he has finished. This usually happens around 4 to 6 months of age and is appropriate time for introduction of solids. Introduction of solids much earlier than this will provide no nutritional advantage and may do harm. Milk will continue to be the major source of protein and fluid for the infant for several months yet. Therefore breast-feeding should be offered before or at separate time from solid food. The introduction of solid food and eventually weaning to a cup are met with mixed emotions by most women who have experienced a pleasant breast-feeding relationship. Many mothers will maintain one or more feedings per day even after the bulk of the infant's needs are being met by table foods. (Worthington et al, 1981)

According to Nassar et al (1993), lack of suitable weaning foods for low income groups is one of the important factors leading to child malnutrition

Serventi, et al (1995), examined early cessation of breastfeeding as a major cause of severe malnutrition in under twos in Tanzania. Their study confirms the danger of stopping breastfeeding before two years. They believe that, generalizations should not be made unless the socio-economic conditions of a certain population under study were as low as this study's population.

Mother and Child Immunization:

According to UNICEF's report "Facts and Figures" of 1996, about 2.4 million children worldwide under age five still die every year from six vaccine-preventable illnesses: diphtheria, measles, pertussis, polio, tuberculosis and tetanus. (UNICEF, 1996)

UNICEF's "Progress of Nations" Report, 1996 documents that deaths of 25,000 children every day from five causes for which we long ago discovered inexpensive means of prevention or cure. The dramatic increase in immunization is not a one-and-for-all achievement but an effort that must be renewed with each generation of infants. Every year immunization is saving the lives of over 3 million children- but complete coverage with the vaccines already available would save 2 millions more. Approximately 13 million children die every year in the developing world. Many of these deaths can be prevented by ensuring children are immunized. (UNICEF, 1995)

According to the World's Declaration on the Survival, Protection and Development of Children, preventable childhood diseases- such as measles, polio, tetanus, tuberculosis, whooping cough and diphtheria, against which there are effective vaccines, and diarrhoeal diseases, pneumonia and other acute respiratory infections that can be prevented or effectively treated through relatively low-cost remedies- are currently responsible for the great majority of the world's 14 million deaths of children under 5 and disability of millions more every year. Effective action can and must be taken to combat these diseases by strengthening primary health care and basic health services in all countries. (United Nations, 1990)

Activities to eradicate polio opens the road for eradication of other illnesses. Eradication of measles is the second goal for many countries. This is because measles kills between one to two million children each year and disables many more millions. There is another challenge. It is pneumonia that kills more than three million children each year. It is considered the major killer for the world's children. (Bax et al, 1990)

Immunization protects against several dangerous diseases. A child who is not immunized is more likely to become undernourished, to become disabled, and to die

Immunization is urgent. All immunizations should be completed in the first year of the child's life. If the child with a case of mild illness or malnutrition is brought for immunization, health workers may advise against the injections. This is wrong advice. It is safe to immunize a sick child. It is now known that it is safe to immunize a child who is suffering from a minor illness or malnutrition. (UNICEF, 1995)

"A Momentum has been building up behind a great change for children... a momentum not based on the shifting sands of sentimentality towards children, but a momentum of practical achievement. The war on the age-old-diseases of childhood, the common diseases that kill and maim so many of the world's children, is in the process of being won. Immunization levels have lifted from 20 per cent in the mid-1980s to 80 percent today. This is one of the great public health achievements of this or any other century". UNICEF Executive Director James P. Grant. (UNICEF, 1994)

According to the World Health Organization), establishing sustainable immunization programs with primary health care is a critical element in protecting child health, and promoting child survival. (WHO, ICPD, 1994)

Expanded programs on immunization (EPI) are well established in all countries, a fact reflected in the region's dramatic drop in child mortality rates. "National Immunization Day" (NID) campaigns, many including multiple-vaccination coverage, have been successfully launched across the region. (Sullivan, 1995)

Communication activities in support of EPI (Extended Program for Immunization) have often focused on creating consumer demand. Mass media have helped mobilize populations and rapidly increase coverage. But health communication can also address complex issues of long-term sustainability, hard-to-reach groups, and certain negative repercussions of high rates (such as diminishing concerns about the seriousness of disease). Many countries are now reporting data which indicate high access to immunization services (good BCG, DPT1, and OPV1 rates) but lower complete coverage, due to drop-outs. Drop-outs reflect a problem in one or both of two areas: service barriers (such as missed opportunities to vaccinate), and consumer barriers (such as lack of correct

information, fear of side effects, competing belief systems). In these cases communication has a role to play. Communication offers practical strategies for reducing both service and consumer barriers to complete coverage and for sustaining appropriate immunization behavior among groups over the long term. Experience has proved that communication strategies work in achieving substantial increases in immunization coverage. This will occur when the message is focused, every opportunity for vaccination is caught by health workers and integration of communication efforts in support of routine service delivery. The mass media - especially radio and television- can disseminate standard messages rapidly. They can motivate and reinforce behavior over the long term. They can give legitimacy to practices and mobilize support among policy makers. Print materials can be tailored to specific groups- even the illiterate- and provide detailed information that can be referred to over time.

(EPI Update, 1991)

Interpersonal channels give credibility to messages and can motivate both individuals and groups. Finally we should always consider the power of combining channels to reinforce messages in different ways and the use of any channel is advisable only to the extent that quality control and cost are also sustainable. A quality service delivery system is the foundation for sustaining EPI coverage. Vaccine shortage, high missed opportunity rates, unmotivated health care workers, and minimal interaction between clients and providers can undermine hard-won-gains. Communication can contribute to reducing many-although not all-of these barriers. Strengthening health care staff communication skills will ensure higher coverage rates in the short term and make health clinics more supportive places over the long term.

(EPI Update, 1991)

Bax et al (1990), believe that without immunization, an average of three out of every hundred children born will die from measles. Another two will die from whooping cough. One more will die from tetanus. And out of every two hundred children, one will be disabled with polio. Children can be protected against these diseases by vaccines. But even when the service is available, many of the infants who need it are not brought for the full course of immunizations.

Control of Diarrhoeal Diseases:

According to Bax et al (1990), diarrhea can be prevented by breastfeeding, by immunizing all children against measles, by using latrines, by keeping food and water clean, and by washing hands before touching food.

Diarrhea is a major cause of short-term growth faltering in children of the developing world. If catch-up weight gain is delayed by inadequate dietary intake, or further bouts of diarrhea, progressive growth failure occurs. Hoare, S. et al. suggest that vigorous and early feeding with a high-energy-protein supplement should be central to the management of malnourished children with acute diarrhoea in developing countries, and may be as important as control of diarrhoea in preventing malnutrition and growth failure. This may be achieved in the community using locally available foods, in the face of continuing diarrhea. (Hoare et al. 1996)

In a study conducted by Dewey et al (1995), the incidence of diarrhoeal illness among breastfeeding infants was half that of formula fed infants. They believe that the reduction in morbidity associated with breast-feeding is of sufficient magnitude to be of public health significance.

Furthermore, Kaki et al (1995), have conducted a study to examine the relationship between breastfeeding and immunity to intestinal infections. The study revealed that breastfed children tended to have shorter duration of diarrhoea than either mixed fed or bottle fed infants.

Brown and Bentley (1989), have studied the dietary management of diarrhea. They found out that chronic childhood malnutrition was a common problem beginning relatively early in life, around the time of weaning. Despite the high rate of adequate duration of breastfeeding, other liquids were added to the infant diet unnecessarily early. 20 % of infants less than one month of age received other liquids in addition to breast milk, increasing to approximately 80% at five months of age, infants in urban were more likely to receive these other liquids. A majority of infants began to receive solid foods by five month of age and almost all infants were receiving solids by nine months.

In general, breastfeeding practices and introduction of weaning foods were consistent with international recommendations. They recommend that additional effort is needed to promote exclusive breastfeeding during the early months of life in order to avoid the increased risk of diarrhea imposed by unnecessary complementary liquids and other foods. Based on the research done in other developing countries, the most appropriate intervention for dietary management of diarrhoea is the development and promotion of a nutritionally enhanced weaning food suited for use during diarrhea. This food should have adequate energy; and nutrient density to treat diarrhea. Dissemination of information about these recipes using mass media like television and radio as well as face-to-face demonstration in community programs and rural marketplaces. In addition, training of health professionals to promote the weaning food is crucial. (Brown and Bentley, 1989)

Children of Egypt report, (1987) indicated that the needs of children can be met within a few years because of the following achievements:

- The successes achieved in the control of diarrhoeal disease.
- The current fast rate of coverage of immunization against childhood diseases.
- The substantial progress made in providing safe drinking water to settlements in the rural interior.
- The effective training up of a large number of traditional birth attendants
- The promising results of the experimental project in controlling schistosomiasis. and
- The firm beginning made in enhancing the capacity of rural women leaders - in each of which UNICEF is a keen partner. (UNICEF, 1987)

FAMILY PLANNING AND REPRODUCTIVE HEALTH :

Toubia et al (1994), defines reproductive health as follows. A condition in which the reproductive process is accomplished in a state of complete physical, mental and social well-being and is not merely the absence of disease or disorders of the reproductive process. Reproductive health, therefore, implies that people have the ability to reproduce and to regulate their fertility. It further implies that, reproduction is carried out to a successful outcome through infant and child survival, growth and health development. It finally implies that, women can go safely through pregnancy and

childbirth, that fertility regulation can be achieved without health hazards and that people are safe in having sex. (Toubia et al. 1994)

Younis, N. et al, in one of the Population Council's policy series on reproductive health. 1994, have stated that this definition should include safe pregnancy and motherhood as important elements of reproductive health. (Younis et al. 1994)

Although in many parts of the developing world, poverty and high fertility go hand in hand, this is not the case for several countries in the middle east. The countries in which fertility has fallen most significantly, Egypt, Tunisia, and Turkey, are among the poor and middle income countries. Conversely, high total fertility rates are found in several of the wealthiest countries, including Oman, Saudi Arabia, and the UAE. (Jacobson, 1994)

Reproductive health affects, and is affected by, other aspects of health, particularly nutrition, health during infancy, childhood, and adolescence, lifestyle and environment (WHO, ICPD, 1994)

According to the "Children by choice not chance", provision of effective reproductive health benefits the health of women and their children immediately and reduces the number of women and children who die in child birth and early infancy. It enables people, particularly women, to take more control over their lives. It helps slow down population growth, which contributes to sustainable development. Finally, it helps families improve their quality of life. (Overseas Development Administration, 1991)

Part of broadening a woman's reproductive choices is ensuring that health system can offer good quality care covering a wide range of family planning methods. Evaluating needs and services before introducing new technologies can help prevent inappropriate method use. Proper training, follow-up and other procedures should be included in the effort to introduce a new method. (Abou-Zahr, 1995)

Inadequate education among the poor means less awareness of family planning methods and benefits. Poverty discourages any kind of planning, including family planning, as it undermines confidence in the future. The low status of women, associated with poverty, means women are often uneducated, and have no power to control their fertility. (UNICEF, ICPD 1994)

According to Moreland et al (1996), a reproductive revolution seems to be under way in Egypt. This is reflected in the total fertility rate's marked decline from 5.3 live births in 1979 to 3.9 in 1990-92; in the near-doubling of the contraceptive prevalence rate from 24 percent in 1980 to 47 percent in 1992; in the distinct decrease (about 38%) in the proportions married in the young age group, (15-19 years); and in the decline in duration of breastfeeding by about 22 percent during the same period. Further efforts are needed to raise contraceptive prevalence by implementing appropriate policy measures; measures to strengthen family planning programs through better availability, accessibility, and quality of family planning services are essential. In addition community leaders, especially religious leaders, can be instrumental by legitimizing contraceptive fertility regulation. (Moreland et al. 1996)

Finally, Maine (1997), comments that family planning programs are designed to increase access to and use of health services. This increased access is then intended to facilitate changes in reproductive behavior. The changes in reproductive behavior may then reduce maternal mortality via two pathways (1) by reducing the number of pregnancies and thus reducing women's exposure to the risk of maternal mortality; and (2) by reducing the proportion of pregnancies that are high risk and, consequently, the number that result in obstetric complications

Family Planning:

Sheer population growth threatens all the goals of sustainable development. Health and quality of life are being undermined worldwide by adverse demographic dynamics, especially where the issue of reproductive health is not being properly addressed. (WHO, ICPD, 1994)

According to "The Progress of Nations Report", published by UNICEF in 1994, at least one pregnancy in five in developing countries is unplanned and unwanted. Nearly a third of pregnancy-related deaths could be averted if all the women who say they do not want any more children could avoid becoming pregnant. (UNICEF, 1994)

Brauce et al (1995), believe that women's lack of control over their own sexuality and fertility remains one of the most threatening aspects of women's lives. They add that estimates from less developed countries show that roughly 10 to 30 percent of all children are born after their parents have reached their desired family size.

Access to reliable methods of family planning could halve the number of maternal deaths and reduce by 30% the under-five child mortality related to pregnancies that are too early, too late or too close together. (UNICEF, 1996)

Safe contraception contributes to good health: when women avoid unwanted pregnancy, they avoid the risks of childbearing or abortion. While family planning programs should not be treated as a substitute for urgently needed improvements in delivery care, reducing the number of pregnancies that women have in their lifetimes also substantially reduces the risk of maternal mortality and morbidity, particularly where fertility rate are high and health facilities are poor or unavailable. Many women are having their children closer together than they wish. (McCauley et al, 1994)

Brace et al (1995), believes that, whatever the reason a baby is unwanted, he or she is likely to start life at a disadvantage, either because the parents are not psychologically prepared for the responsibility of childbearing or because family resources are inadequate to meet the baby's needs

Family planning programs should focus solely on reducing unwanted fertility by helping individuals meet their own reproductive goals in a safe and ethical manner (Population Briefs, 1995)

In the Arab world, the majority of women marry at a young age and experience high levels of fertility. Moreover, many of these women live in poor socio-economic environments and do not have access to quality health services. (Zurayk, 1994)

According to Ramaligaswami (1988), there is still massive unmet demand for safe and effective contraceptives and for reproductive health services, including safe motherhood.

Large family size is often associated with early childbearing and short intervals between births. Children born in rapid succession have poorer health and nutritional status than children born after a longer postpartum interval. Mortality rates are higher among those children who are likely to have low birth weight and to be prematurely weaned from breastfeeding. The risk of death for young children is increased by about 50% if the space between births is less than two years. (Brauce, et al. 1995)

The impact of high fertility on the welfare of children in large families is discernible and potentially damaging. Children who grow up with many siblings are increasingly at a disadvantage because they are least likely to benefit from new opportunities in modernizing societies. These children may be adversely affected by resource dilution and diminished access to public resources, such as health care and education. On the other hand, not all children in large families are disadvantaged, of course, but children with the best prospects, statistically speaking, are those with few siblings. Such children are more likely to be wanted, to be granted access to public resources and to receive equitable treatment in relation to their siblings. (Population Briefs, 1995)

Robey et al (1993), indicated that recent findings support that provision of birth-control methods has the greatest direct influence on fertility rates. Moreover, the data confirm earlier observations that better-educated women are more likely to practice some form of contraception than are women with little or no education. Women in urban areas are more likely to use contraception than are women living in rural parts of the country. Women in cities tend to be better informed than their rural counterparts and are more

exposed to contemporary attitudes, including desire for smaller families. Family planning services are more readily available in cities. (Robey et al, 1993)

Frequent and close pregnancies put the mother and her children at risk. First, the mother who experience such frequent and close pregnancies is more liable to:

- 1- Increased possibility for miscarriage and pre-term labor.
- 2- Increase prevalence of anemia.
- 3- Calcium deficiency.
- 4- Increase maternal mortality and morbidity.
- 5- Psychological, social and economic drawbacks. These are mainly due to putting the mother under both physical and psychological overload which affects her social function as mother and a wife. It also affects her career if she is studying or working. (القاضي، ١٩٨٩).

For the child, the most important effects of frequent and close pregnancies are.

- 1- Increase possibility of prematures.
- 2- Small for birth pregnancy outcomes; where the child is born under-weight compared to gestational period.
- 3- Failure or shortened breastfeeding due to mother exhaustion, calcium deficiency and the load of the new pregnancy. Failure of breastfeeding will ultimately make the baby more vulnerable for diarrhea, low immune system and low calcium.
- 4- Low level of intelligence in children of large families and the fifth child compared to the first of the same family.
- 5- Less care for the child with subsequent possibilities of high morbidity and mortality (القاضي، ١٩٨٩)

Moreland et al, (1996) reports that infant mortality is influencing the rate of contraceptive prevalence. Measures to reduce deaths among infants less than one year of age, are needed. In addition IEC programs, better availability and accessibility of health services, oral rehydration program, immunizations and vaccination programs

According to Ramaligaswami, (1988), no study as yet has shown any of the accepted contraceptive methods to be harmful to nursing infants, but a contraceptive containing estrogen, as the Pill, may reduce breastmilk output and is not the preferred method. For this reason, the mini-Pill (progestin only) may be the best alternative for women who prefer the Pill.

Robey et al (1994), documented family planning lessons and challenges. They concludes that over the last 30 years, family planning programs have helped millions of people to have the smaller families they wanted. As programs have learned how to meet people's needs, contraceptive use has spread rapidly. What makes a family planning program work? Population Reports has identified 10 key lessons; these are:

1- *Family Planning Demand:*

Family planning programs succeed because they respond to people's needs.

2- *Contraceptive Access:*

The easier the contraceptives and services are to obtain, the more likely people are to use them.

3- *Choice of Contraceptive Method:*

Offering a range of contraceptive methods provides more choices and attracts more clients. Each contraceptive method has advantages and disadvantages. No single method is appropriate for everybody. The more methods offered, the more likely that each client will find a satisfactory one and that clients will be able to shift to new methods as their circumstances change.

4- *Client-centered quality:*

The higher the quality of family planning services, the more likely people are to use them. From client's point of view, not only the technical quality of services is important but also are other aspects, including privacy and confidentiality, competent counseling, friendly personnel, and the opportunity to make an informed choice about contraception. "The best and most effective publicity any program can achieve is that which flows by word of mouth".

5- *Communication:*

Communication improves use of family planning by creating awareness, increasing knowledge, building approval, and encouraging healthy behavior. Information,

education and communication (IEC) activities bring people and family planning programs together. Communication activities give people the information they need to make informed choices about using and continuing to use contraception and about other aspects of reproductive health. Interpersonal communication, whether among family members and friends or between service providers and clients, play an important role in people's decisions about family planning, helping people decide whether, when, which method, and how to use family planning.

6- *Well-Trained Provider:*

Motivated, well-trained providers deliver family planning services better. Family planning programs that train their staff well are better equipped to meet the needs of their clients. Technical training in clinical procedures and knowledge of contraceptive technology are fundamental to safe and accessible delivery of family planning services. Training in interpersonal communication also is essential to the quality of services.

7- *Program Leadership and Strategic Management:*

In successful programs strong leadership and strategic management define goals, attract resources, build support, overcome obstacles, and adapt to change.

8- *Research and Evaluation:*

Family planning programs that analyze their performance improve their performance. While a range of effective methods is currently available, more people could meet their changing needs through their reproductive lives if even more methods were developed.

9- *Political Commitment*

Political commitment supports and strengthens family planning programs.

10- *Financial resources:*

Well funded family planning programs accomplish more and accomplish it better. (Population Reports, 1994)

The Family Planning Services Division of the Office of Population, USAID, has identified five stages of growth of family planning programs. These stages are classified by prevalence of modern contraceptive methods. These are **Emergent**, where prevalence of modern contraceptive use is below 8% of married women of

reproductive age; **launch**, where modern method prevalence is 8% to 15%; **growth**, at 16% to 34%; **consolidation**, at 35% to 49%; and **Mature**, where at least 50% of couples use modern contraceptive methods. (Robey, et al 1994)

Cleavland and Janowitz (1992), believe that breastfeeding is the oldest contraceptive, yet it is not generally recognized or promoted by family planning providers as an effective means of family planning. They add that, side effects of contraceptives can have a significant influence on the decision to continue their use. Health care providers should be prepared to offer advice on management of contraceptive side effects or to offer other contraceptive alternatives.

Bertrand (1990) believes that post-partum programs are targeted to women at a point when they are already in contact with health professionals and when their motivation for pregnancy avoidance is theoretically high. With the increasing importance focused on quality of care in FP service delivery, Operations Research projects have also addressed this issue. One of the main elements in quality of care is the counseling which clients receive. One study of counseling for provider-dependent contraceptive methods in the Dominican Republic (1988-89) tested the relative effectiveness of different counseling approaches. The results indicated that giving "information alone" (showing a video and asking if there are any questions) was the least effective method (and least expensive) (Bertrand, 1990)

According to Robey, et al, (1993), the developing world is undergoing a reproductive revolution. Throughout the Third World, women differing vastly in culture, politics and social and economic status have started to desire smaller families. Birth rates have declined by one third since the mid-1960s women formerly had six children on average, but today they have four. Developing countries appear to have benefited from the growing influence and scope of family planning programs, from new contraceptive technologies and from the educational power of mass media.

John, (1995) of the Population Council in New York City, believes that there are four major direct influences on fertility; these are:

1-The use of effective contraception.

2-The age at which women first marry.

3-The length of time after childbirth that a woman cannot conceive (because of breastfeeding or sexual abstinence).

4- The use of abortion.

(John, 1995)

A country's contraceptive prevalence rate- the percentage of married women of reproductive age who use any method of contraception- largely determines its total fertility rate. Indeed, the data reveal that differences in contraceptive prevalence explain about 90 percent of the variation in fertility rates. As access to newer forms of contraception has spread in the Third World. Couples have become less likely to depend on traditional methods such as periodic abstinence (the rhythm method) and withdrawal. As contraceptive methods such as the pill, IUDs, injectables and sterilization have been developed, governments and donor agencies have helped developing countries establish family-planning programs and provide contraception. These services have sought clients and have removed or lowered many of the economic barriers to health care and to the availability of contraception (Robey et al. 1993)

Cleavland and Janowitz (1992), suggest that "Norplant" is an ideal method for a country such as Egypt, in which childbearing begins early and women face many years at the end of their reproductive lives in which they want no more children. Women ready to stop childbearing may have up to ten years in which they require contraception. In addition, they dispute the notion that "development is the best contraceptive", a phrase that originated at the 1974 World Population Conference in Bucharest. The authors review of recent data suggests that although development and social change create conditions that encourage smaller family size, contraceptives are the best contraceptive.

They add that " As the demographic data indicate, dramatic trends in family planning have emerged in developing countries. It would be unfortunate if the family planning

programs and the funding sources that support them failed to respond to the stunning changes in reproductive attitudes that have been observed in many third world countries. Developed nations must make a substantial philosophical and financial commitment to meeting such needs. Otherwise the reproductive revolution may be stymied.

They finally conclude that the pace at which fertility will keep decreasing is likely to depend on three interrelated factors: how fast societies develop; how quickly new norms concerning small families and the use of family planning are accepted; and, perhaps most important, how well public programs and private suppliers can meet the need for contraception. (Cleavland and Janowitz, 1992)

Sherris et al (1985), have concluded that family planning programs have clearly lowered fertility in a number of developing countries. Fertility has declined in most countries where strong family planning programs operate with government support in favorable social and economic settings.

They believe that the most important factors for family planning program success were the following:

- The adequacy of supervision at all levels of a program
- The extent to which family planning staff carry out assigned tasks
- The availability and accessibility of services and supplies to current and potential users.
- The extent of postpartum programs
- The extent that mass media are used for IEC
- The extent to which program managers use evaluation results to improve the program. (Sherris et al. 1985)

In Egypt, Nassar et al, (1993) found out that family planning programs and child spacing were found positively correlated with the nutrition status of children. Birth intervals appear to have a significant influence on the health status of mothers and their children. The avoidance of higher order births, beside other factors, are needed as a

means of reducing infant and child mortality. In Egypt, it was argued that short birth intervals; particularly those less than two years was positively associated with higher rates of both morbidity and mortality among women and their children. It is believed that the differences in the nutrition and health status of mothers awareness of birth spacing and birth intervals should be raised as one of the determinants for better health and nutrition status of mothers and children.

Providing access to safe, affordable contraceptive services, which enable women to determine the number and spacing of pregnancies, is one way to help improve the health and status of women.

Nassar et al (1993) have found out that, at the international level, about one of every five women who want to avoid a pregnancy is not using contraception. This is the "unmet need". Quality care can make an important contribution toward addressing unmet needs, focus groups and other research show that women want and need courtesy, respect, privacy, clear information and instruction regarding contraceptive use.

Spacing children at least two years apart can increase the health of the mother significant, as well as the health of the child. Hence, the postpartum period is an extremely important time for contraceptive use. At this time women need to delay their next pregnancy, and almost all women want to do that, but they often cannot discuss family planning with their husbands. (Nassar et al. 1993)

The "Family Health International" has indicated in 1994, that it is important to provide information about contraceptive options during the prenatal period, so that a woman will not have to make a rushed decision immediately after giving birth. Involving husbands can also help, since that gives women a chance to discuss family planning with their spouses. (FHI, 1994)

Male involvement with family planning is one way to help meet the reproductive health needs of women. Changing men's attitudes toward women's use of contraceptives will take even more commitment because of strong cultural obstacles. In the developing

world, some family planning programs and economic development programs are working together to link contraceptive services with broader efforts to improve health, education and employment. Programs that combine family planning and development seek to address some of the underlying causes of high fertility, such as poverty, women's low social status and low survival rates of their children. Since the 1980s, development efforts to promote family planning did not take into account other areas of women's lives, such as education, work, income, or health care. (FHI, 1994)

Quality reproductive health services are key right for women. Services should include safe contraception; prenatal, maternity and postpartum care. Being responsive to women's overall reproductive health needs is the best way to ensure proper use of all contraceptive methods. Long acting contraceptive methods including intrauterine devices (IUDs), Norplant and sterilization, are among the most effective, convenient methods available for preventing unwanted pregnancy. They require little or no effort on the part of the user after initial service delivery, which should be done by trained health-care providers. (FHI, 1994)

According to Rinehart et al (1995) in the next few years millions of couples throughout the world will be offered the choice of injectable contraceptives. Reassuring research findings, approval of the 3-month injectable in the U.S. and the introduction of new monthly injectables promise wider access. Whether expanding services or offering injectables for the first time, programs have a new opportunity and challenge to provide good care that responds to their clients' needs. Good counseling helps clients choose and use contraceptives. What do clients need to know to make an informed choice and to use the method successfully. Service providers should get the proper training in counseling to do this job efficiently. (Rinehart et al. 1995)

McCauley et al (1994) believe that family planning programs contribute most by helping women prevent unwanted pregnancies. Well-designed, high-quality programs can do even more by delivering services in ways that help women meet other needs as well. With the advice and involvement of the women they serve, well-designed

reproductive health programs can help women in a variety of ways to improve the quality of life for themselves, their families, and their communities.

The World Fertility Survey (WFS) and Demographic and Health Surveys (DHS) indicate that 90% of women who plan to become pregnant would like to space their children at intervals longer than 24 months. More than one-third, however, have a second birth within 24 months.

The reproductive decision-making process reflects tradition, religious belief, community norms, family structure, household economics and the value of children, and access to new ideas and innovations, all expressed in peoples' attitudes and opinions. (McCauley, et al 1994)

Past efforts to curb rapid population growth focused almost exclusively on family planning. This approach is necessary but not sufficient for stabilizing population. A substantially broadened approach to population policy that emphasizes social investments (for example, in health care, education, and poverty reduction) is needed to avert the potentially damaging consequences of continued population growth. Such policies will improve human lives in the short term run, while promoting a better balance of population and resources in the long run. (Population Briefs, 1995)

The Role of IEC Activities in Family Planning:

All couples should have access to information on the importance of responsible planning of family size and the many advantages of child spacing to avoid pregnancies that are too early, too late, too many or too frequent. Prenatal care, clean delivery, access to referral facilities in complicated cases, tetanus toxoid vaccination and prevention of anaemia and other nutritional deficiencies during pregnancy are other important interventions to ensure safe motherhood and a healthy start in life for the newborn. There is an added benefit to promoting maternal and child health programs and family planning together in that, acting synergistically, these activities help

accelerate the reduction of both maternal and fertility rates, and contribute more to lowering rates of population growth than either type of activity alone. (United Nations, 1990)

An effective family planning program has appropriate management and decentralized administration and makes contraceptives widely available. The role of Information, education and communication (IEC) is essential, integration of family planning services with maternal and child health and other services, and postpartum education and service delivery efforts. Communicators should know that it is not yet widely known that birth spacing is one of the most powerful ways to improving the health of women and children. (UNICEF, 1989)

IEC campaigns, if they are backed up by good service delivery and good management among other factors, contribute to program success. IEC activities that use mass media to convey appropriate messages can be especially useful, largely because they reach so many people. They tend to have a legitimizing effect if people have doubts about family planning. Also, messages for the mass media are more likely to be developed by professionals who have the technical and communication expertise to prepare and present effective messages. Family planning programs work best when they provide people with full information and a choice of services in a climate of respect. Government goals and projections may be an important part of national development planning. But setting targets for contraceptive "acceptors" is not the road to family planning success. Rather, if people are given the opportunity, they choose family planning when it meets their needs. (Sherris et al. 1985)

The mass media can promote the image that women are competent in whatever they choose to do, whether they are strong mothers in the village or glamorous urban entrepreneurs. Mass-media messages influence behavior, as family planning communication efforts around the world have demonstrated. (Sherris et al, 1985)

Werner and Bower (1987) believe that, those who promote population control often do not inform people adequately about the risks, while those who oppose population

control often exaggerate the risks. They add, Family planning is far more likely to be successful when both parents make the decision together and share the responsibility.

Piotrow et al (1994) suggest that organizations or groups interested in designing family planning policies, strategies and programs should support and enhance the use of interpersonal communication channels. Face-to-face communication can be enormously powerful and uniquely persuasive. Because interpersonal communication is two way, it provides immediate feedback and responds to people's individual concerns, questions, and needs. In fact, interpersonal communication epitomizes the communication ideals of participation and interaction. Effective interpersonal communication can be depicted by mass media. For example, a television or radio drama may portray a couple discussing family size or a health care provider counseling a client. Family planning programs should stress counseling to help clients make informed choices about family planning as a key component of quality services. Clinic design, client flow, management information systems and other program components should be designed to support private and confidential counseling. (Piotrow, et al.1994)

In addition, they believe that family planning programs should link mass media with family planning services by, for example, using the mass media to enhance the image of health care providers or to promote specific service sites (Piotrow, et al.1994)

Furthermore, Zimmerman,et al (1989) document that mass media, such as radio and television, have been successfully used in some areas. Traditional folk media, including puppet show, theater, and songs, are also valuable. However, while these techniques can augment and reinforce interpersonal communication, none of these can replace the interactive learning possibilities afforded by face-to-face communication. Carefully designed print materials can be used to support interaction between health workers and clients, hence, these materials may be called "support materials". As informational materials are prepared repeated interaction with representatives of the target audience is undertaken to ensure that the materials produced are accurate, well understood, and responsive to the audience's needs and concerns. (Zimmerman et al 1989)

They suggests the following criteria for evaluating existing materials:

- * Ease of understanding.
- * Appropriateness of reading level.
- * Acceptability.
- * Quality of illustrations.
- * Technical accuracy; and
- * Cultural sensitivity.

(Zimmerman, et al 1989)

Robery et al (1994) conclude that, to make an informed choice. clients need accurate, clear, unbiased, and useful information and advice about reproduction, family planning, and correct use of contraceptive methods. Family planning programs provide information in many different ways, including the broadcast media, print materials, and videos, as well as person-to-person discussion. Mass-media and interpersonal communication play complementary roles in ensuring that clients can make an informed choice. In developing countries, communication campaigns have helped to promote discussion of family planning, increase clinic visits, and raise levels of contraceptive use.

They confirm that widespread communication and the influence of mass media in developing countries have accelerated the diffusion of novel ideas about family planning in both urban and rural environments. In conclusion, family planning holds promise because so many women want to control their fertility. Large numbers of women are entering their reproductive years, and more of them want family planning. Thus family planning providers face a challenge: In developing countries family planning must reach 50% more couples during the 1990s just to halt world population growth at 12 billion. As part of a broad range of actions, slowing population growth -by preventing unwanted pregnancies- can contribute to the health of the environment and efforts to raise standards of living- not just for now but also for generations to come. (Robery et al, 1994)

Every year's delay in further reducing birthrates translates into millions of new babies- who grow up to become parents themselves. This is the decade in which the world, to

achieve a better balance between human numbers and exploitation of natural resources- in other words, must begin practicing sustainable development. Because population growth aggravates many environmental problems, helping and supporting women and men who want to control their fertility can contribute to progress in various environmental sectors. Slowing population growth by reducing fertility can reduce stress on the environment. Population growth can be slowed substantially by making high-quality, client-oriented services widely known and widely available on a voluntary basis (Robery et al, 1994)

They finally state that to reduce population growth, a number of social programs are necessary, all fully justified by their direct benefits to their clients. They include:

- Making family planning available to all who want it and support women who use family planning so that they can choose the number and the timing of births.
- Encouraging later marriage and childbearing, which benefits women's health, can open up opportunities to women for more education and paid work, and also reduces family size and lengthen the time between generations;
- Encouraging breastfeeding, which not only promotes infant health but also can lengthen the interval between pregnancies;
- Improving women's status and opportunities for education and employment. (Robery, et al, 1994)

According to Assad (1995), up to the mid 1960's, the Middle East and North Africa region had the world's highest fertility rate among developing regions, but since then, the average fertility rate in the region has been falling more rapidly than in either Africa or South Asia.

Johnson (1995) adds that over the past two decades, understanding has increased of the relationship among population, the environment, and sustainable economic development. This better understanding has led to a focus of attention upon human development and reproductive health, especially women's health and status.

The Role of The Community and Community Workers:

At present, there is great interest in community-based health programs. One reason is that experience has shown that the success of health programs often depends on community involvement. Another reason is the growing concern with the cost of health programs. Community participation has long been recognized as an effective means of helping rural and urban people focus energy and mobilize resources to solve their health, environmental and economic problems. When people from the community organize, plan, share tasks with professionals, contribute financially to projects or programs, and help make decisions about activities that affect their lives, programs are more likely to achieve their objectives. By involving the community in promoting the family planning program, managers will gain greater support from the community and will find that the community takes more responsibility for making sure the program achieves its objectives. In addition, because practicing family planning frequently means that people need to make behavioral changes, involving community members in the family planning program can make these behavioral changes more acceptable and consistent with community norms. (The Family Planning Manager, 1994)

According to Cleavland and Janowitz (1992), in Egypt, the National Population Council (NPC) operates a cadre of female community workers, called Raidat Riefiat, who reside in their own communities and motivate local residents to accept family planning. The NPC is concerned about the uneven performance among the Raidat Riefiat and is looking at the effect of a new training system for Raidat Riefiat (female community workers) on promoting family planning within the National Population Council program.

The logic of the community-based basic services strategy is, in fact, derived from the experience of developing countries themselves. The parent, particularly the mother, is the child's first and most dependable line of defense. The next is the local community. UNICEF advocacy as well as cooperation seeks to focus particularly on services based in the community itself, planned and supported by -and responsible to- the people of the community. Community workers, after brief practical training, they return to their communities to organize basic services and to help their neighbors learn new ways of

doing things, the community supports them and participates in the activities. The strategic focus on community-based services has particular relevance for the most cost-effective and practicable means of saving children's lives and protecting their health and development. Several common priorities and possibilities have been identified worldwide : reversing declining trends in breastfeeding particularly in urban areas : improving weaning practices; monitoring growth to detect malnutrition and to intervene before it becomes serious; universal use of oral rehydration to replace body fluids lost during diarrhoea; and universal immunization of children against childhood diseases. (UNICEF, 1987)

The time is now for Egypt to promote the community-based, decentralized, professionally backed, and strongly state-supported approach to basic services for children. This could link up the quick-yielding programs like diarrhoeal control and immunization with a more patient strengthening of education, training and communication to assist in meeting basic needs.

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Chapter Two

The Egyptian Experience in Mother and Infant Care

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Children are the most precious part of the nation's life and the biggest promise for the future. Their survival, development and protection are a basic responsibility of the family, the community and the government. (UNICEF 1988)

The Government of Egypt (GOE) has been committed to improving the health of children as a priority following President Mubarak's Declaration the (1989-1999) decade would be the decade for the protection and development of the Egyptian child. Following this declaration, the National Council for Childhood and Motherhood (NCCM) was established by Presidential Decree in 1988 as the authority responsible for proposing policies regarding children and mothers. The NCCM is co-chaired by the Prime Minister and the First Lady. The counsel coordinates activities between ministries implementing programs affecting children and mothers. In addition, the health section of the GOE five-year plan for 1992-1997 enunciates policies and strategies for a new Ministry of Health and Population (MOHP) orientation, in which subsidized health care is targeted to those who can not pay. The plan encourages community participation in health. Above all, maternal and child health (MCH) and family planning are identified as priority areas. The Government of Egypt is taking rapid strides towards saving children's lives by promoting, successfully and simultaneously several national primary health care interventions for children. (UNICEF, Cairo, 1996)

The World Summit for children was held in 1990 was blessed by a Presidential Declaration which preceded the World Summit Declaration by one year. The Presidential Declaration anticipated most of the decade goals set later by the World Summit for Children convened in 1990. Egypt has achieved most of the mid-decade goals (MDG) for children and women at the national level, and most of the others are on track. However, in Upper Egypt, the country faces considerable challenges. Extra efforts are needed in particular to achieve the goals of sanitation, female education and family planning in many Governorates. (UNICEF, Cairo, 1996)

In 1994, NCCM coordinated the review of Mid-Decade Goals (MDG) and helped gather information on the situation of children and mothers in Egypt. With this early commitment to the cause of the Egyptian children, it came as no surprise that Egypt was one of the six initiators of the World Summit. Egypt was one of the first countries to sign the World Summit Declaration (WSD) and also to ratify the Convention on the Rights of Children (CRC) in 1990. From the recommendations of WSD, NCCM developed a national 'Program of Action' which gave children priority in national planning, and integrated it into the current five-year plan (1993-1997). Egypt adopted all MDG set by the WSD plan of action with some modifications; the most relevant of which are the addition of two goals, these are:

- 1-Improve services to combat ARI, which are responsible for nearly 30% of child deaths in Egypt.
- 2-Promote family planning, since the Egyptian government gives high priority to the problem of population growth. (UNICEF, Cairo, 1996)

Egypt has made good progress in many of the health and nutrition aspects of the MDG. In 1984 only 30.0% of Egyptian children were fully immunized, with a marked difference between children in urban areas (50.0%) and rural children (only 15.0%). Immunization coverage now constitutes a major part of the public health Program in Egypt. The Expanded Program for Immunization (EPI) succeeded in raising immunization levels very rapidly, and Egypt has now achieved universal child immunization. proportion of children aged 12-23 months reported by mothers to have been immunized reached over 90% in 1994. (UNICEF, Cairo, 1996)

The Presidential Declaration goal is to decrease infant mortality to less than 50 per 1000 live births. Pneumonia is one of the two major causes of death among infants and children in Egypt. In 1989 the proportion of deaths due to ARI was 29.0% for infants and 36.0% for children under five. The Ministry of Health initiated an ARI control Program in late 1987 as part of the Child Survival Project (CSP) established in collaboration with USAID. Diarrhoeal disease is the other major killer of Egyptian children. The MDG was set in conformity with the decade goal to halve deaths due to diarrhea in children under five.

One of the important MDG is to end and prevent free and low cost supplies of breast milk substitutes in all hospitals and maternity facilities. Overall breastfeeding rates in Egypt approach 95%. However, according to the 1995 Demographic and Health Survey (DHS), only 67.7 % of children under three months of age are exclusively breastfed. This rate drops to just 24.1 % for 4-6 month old children. (UNICEF, Cairo, 1996)

Another important MDG is to ensure that all couples have access to information and services to prevent pregnancies that are too early, too closely spaced, too late or too many, and accordingly raise the ratio of couples using family planning methods from 37.0% in 1988 to more than 50.0%. However, the main constraint to increased contraceptive use lies in the wide discrepancy in use, especially in rural Upper Egypt where the use rate is lowest. Poverty, low levels of education, and the persistence of large family traditions, are some of the factors impeding the adoption of family planning methods in this region. More efforts have to be concentrated in rural Upper Egypt to raise contraception use rates. (UNICEF, Cairo, 1996)

The Ministry of Health and Population (MOHP) continues to retain "Health for all by the year 2000" as the main health objective. The MOHP has a nationwide network of more than 3,700 primary, secondary and tertiary health care facilities through which maternal and child health services are provided. In addition, the MOHP controls and regulates the work of all non-governmental health care organizations and facilities and all service providers. In line of the above policies, the MOHP has developed national programs to control diarrhea and acute respiratory infections and instituted an expanded childhood immunization program. In addition, the MOHP set targets to eradicate poliomyelitis and eliminate neonatal tetanus before the year 2000. Progress is being made in these areas, with significantly reduction in neonatal tetanus. The MOHP is also directing attention to improve maternal health through integrated reproductive health programs as well as reducing neonatal mortality through improving the quality of care given to newborn at home and in health facilities. (MACRO International, 1995)

According to UNICEF's Report on the State of The Egyptian Children 1988, lessons learned from previous projects are many, among which is the great success of five year

campaign to promote Oral Rehydration Therapy (ORT). To sustain the success achieved so far, the project is now integrated within the nation's health system. (UNICEF, 1988)

The National Population Council established a "National Population Policy". One of the main objectives of which is to improve population characteristics through mother and infant care. Procedures for achieving this objective are many; among which are:

1. Development of comprehensive plans for social and health care of children.
2. Improvement of the quality of mother and child care services with greater utilization of special projects to increase overall demand for the services especially in deprived areas.
3. Promotion of effective procedures to raise health and reproduction awareness of mothers in issues related to health of mother and child. (Ministry of Health & Family Planning, 1995)

The current scope of population policy includes (1) family planning, (2) maternal and child welfare, (3) women and development, (4) population information, education, and communication (IEC), labor and employment, (6) youth, (7) environment, (8) education, and (9) land use (Egypt National Population Council, 1991). (Ministry of Health & Family Planning, 1995)

Infant and Child Health:

President Mubarak of Egypt declared the years 1989-1999 a Decade for the Protection and Development of the Egyptian Child, to "ensure that children occupy the forefront of our national plans for development". This declaration was a pioneering initiative at the international level. It aims to reduce child and maternal mortality rates, and give priority to child-related projects in general. (UNICEF, Cairo, 1996)

Infant and Child Mortality; Where are We Now:

According to the State of The Egyptian Children 1988, infant and child mortality have decreased substantially over the past three decades, but continue to be much higher than hoped for, as is the pregnancy-related maternal mortality rate. While there is general

agreement that these are unconscionably high, there is considerable controversy concerning precise levels. Most of the research into mortality has focused on neonatal (birth to one month) and infant mortality (up to the age of one year) and relatively better attention has been paid to child mortality (1-4 years). While infant mortality has received a lot of attention, information on child mortality in Egypt remains underutilized. (CAPMAS & UNICEF, 1988)

Furthermore, infant mortality rate (IMR) for illiterate women was significantly higher than the rate for literate women. Although the difference between literate women and women who had completed basic education was not significant, the improvement between those women who had completed basic education and those who had completed secondary education was significant. (UNICEF, Nov. 1989)

MOHP has identified the reasons behind high infant mortality being:

- 1- Inadequate immunization coverage.
- 2- Low level of mother's awareness.
- 3- Increased incidence of gastrointestinal and respiratory infections. (MOHP, 1995)

According to EDHS 1995, the current infant mortality rate is 63 deaths per 1,000 births, and the neonatal mortality rate is 30 deaths per 1,000 births. These data indicate that more than three-quarters of early childhood deaths in Egypt take place before a child's first birthday. Although mortality in rural Upper Egypt is higher at all ages than mortality in rural Lower Egypt, the large differential in childhood mortality is particularly noteworthy; the childhood mortality rate in rural Upper Egypt is 42 deaths per 1,000 births, almost twice the rate in rural Lower Egypt (23 deaths per 1,000 births). (MACRO International, 1995)

UNICEF's study about "The Situation of The Egyptian Children in Upper Egypt" indicated that in 1986, Upper Egypt has the highest infant mortality rate of any region. According to the registered rate, the IMR in Upper Egypt is 50.0% higher than in lower Egypt; according to the rates adjusted for under-registration of births and deaths, the Upper Egypt rate is double that of Lower Egypt. Although regional infant mortality rates have been falling since 1980, the rate has declined less in Upper Egypt than in

Lower Egypt. Regional infant mortality rates have been falling since 1980 by more than 40.0% in some regions. It has declined by less than 30.0% in Upper Egypt: the decline has been greatest in lower Egypt (47.0%), and smallest in Upper Egypt (27.0%). (UNICEF, 1989)

According to Naguib & Lioyd (1994) infant and child mortality have declined substantially since the 1970s. Despite the overall improvements in child health, some areas lag behind - for example, low-income areas in urban centers, and rural Upper Egypt.

Moreover, although declines in infant and child mortality were greater among female children, a gender gap still exists in child mortality and possibly, infant mortality. In addition, boys tend to receive higher-quality health care in the form of private providers versus public providers than do girls. (El-Zanaty et al., 1993)

With clear gender inequality between children Ahmed et al (1981) have indicated through their study that in Egypt nearly 1/3 of female deaths can be attributed to a sex-specific cause : lesser care of the female child. Nutritional status of female infants tended to decline with an addition of daughters in the family. "Boy preference" contributes to infant mortality and to increased fertility and should therefore be a common concern to both health and population planners. (Ahmed et al, 1981)

The Ministry of Health and Population developed "Maternal and Infant Care Strategy". This Strategy included proposed activities to decrease infant mortality rates:

- 1- Increase quality of service for mothers and children.
- 2- Increase quality of services and facilities for prenatal care
- 3- Support IEC activities to promote immunization of pregnant women against tetanus.
- 4- Support IEC activities to promote breast feeding.
- 5- Provision and availability of high quality contraceptive methods.
- 6- Health education of mothers through interpersonal communication.
- 7- Increase immunization coverage for the six serious illnesses during childhood.
- 8- Increase programs for treatment of diarrhea and respiratory diseases. (MOHP, 1995)

Breast Feeding, Current Practice and Potential for Improvement:

The CAPMAS studies found a tremendous impact of breast feeding on infant mortality. Breast feeding remains the norm in Egypt, with more than 90.0% of all mothers initiating lactation. For those who breast feed at all, 85.0% are still breastfeeding when the child reaches six months of age, and about half at 18 months. This means, however, that nearly 25 percent of Egyptian infants are not being breast fed by six months of age, which has serious implications for growth and development. (CAPMAS, UNICEF 1988)

Hossain et al (1995) believe that recent data on the patterns and correlates of the timing of breastfeeding initiation in newborns are scanty for many countries including Egypt. They conducted a study to investigate the timing of breastfeeding initiation and its correlates in a cohort of rural Egyptian infants. Their study revealed that, breastfeeding initiation appears to be unduly delayed in the mother and infants, in the study group, given that they were apparently healthy during the early post-partum period. Later initiation of breastfeeding was associated with indiscriminate prelacteal feeding, earlier termination of breastfeeding, and unwelcome supplementation practices. Their findings emphasize the need to initiate and/or strengthen programs to promote appropriate breastfeeding practices. (Hossain et al, 1995)

In the early 90's the Ministry of Health in cooperation with WHO and UNICEF have started implementing Breast Feeding Hospital Initiative (BFHI) which encourages and supports exclusive breast feeding of infants for 4 to 6 months. Among these efforts the Ministry of health published a booklet for mothers titled "Mother's Guide For Successful Breast Feeding". This booklet supported mothers whether working or not working to breastfeed their children. The booklet included several breast feeding messages, among which are:

1. Mothers should breast feed her child on demand and never try to give him other liquids, artificial milk or pacifiers.
2. When the country provides prenatal and postnatal care, this will reflect on better women's health and accordingly better health for her baby. As a result infant mortality will decrease and family planning practice will increase

3. When working women succeed to breastfeed her baby exclusively for 4-6 months, and continue breastfeeding with supplementation for two years, she is a role model for a mother and a productive citizen as well. (MOH, WHO & UNICEF, 1993)

Under the auspices of the Ministry of Health and UNICEF's technical and financial support, a "Knowledge Attitude and Practice" (KAP) study was conducted in Egypt in 1993. The study was conducted on health professionals and mothers of twelve hospitals in order to identify the impact of traditional teaching, ongoing clinical practices, affected by milk company marketing as well as community disbeliefs on the natural science of breastfeeding. This was necessary to direct the implementation of the Baby Friendly Hospital Initiative (BFHI) that targets:

- 1-The adoption of the ten steps of WHO/UNICEF.
- 2-The empowerment of nursing mothers to exclusively breastfeed up to 4-6 months and to continue breastfeeding with complementary feeding up to two years.
- 3-To help working mothers to exclusively breastfeed and favor labor legislation to working breastfeeding mothers.
- 4-To ensure the implementation of the international code of breast milk substitutes. (UNICEF, 1993)

KAP studies conducted in the 12 hospitals prior to BFHI implementation showed that:

1. The studies for health workers illustrated a clear deficiency in all ten steps except for those involving rooming in (80.0%) and antenatal care (70.0%). The remaining steps scored less than 60.0%. There was a significant lack in KAP towards management of special care cases and difficulties with breastfeeding. KAP toward exclusive breastfeeding in the first 4 months, and no use of bottles and pacifiers approached 20.0%.
2. The KAP studies conducted for mothers showed a significant lack of knowledge towards the benefits of breastfeeding and the use of bottles, decoctions and supplementary feeding before 4 months of age. Illiteracy rates were very high in such mothers and most of them were non-working mothers. (UNICEF, 1993)

Ideally all maternity facilities should be able to comply with 80-100% of each of the 10 steps endorsed within the global criteria intended for baby friendly hospital certification. In the survey study conducted for hospitals (maternity health facilities) for assessing infant milk formula status in 40 hospitals in 4 Governorates prior to BFHI implementation it was shown that:

1. Distribution of infant milk formula occurred in 35.0% of hospitals surveyed from local hospital pharmacy, company donations (as free samples) and from private purchases.
 2. Promotional activities for infant milk formulas was exercised in 35% of these hospitals.
 3. Bottles and teats were distributed by 12.5% of these hospitals.
 4. No rules prohibiting the use of bottles or teats or pacifiers and no promotion to raise awareness to the hazards of such items were present at all for bottles(100%) and for infant milk formula (77.5%).
- (UNICEF, 1993)

Analysis of this KAP study, surveys and assessments indicated that at the Egyptian maternity facilities there are three hard rock walls facing baby friendly success:

1. To make health staff communicate and counsel with mothers.
2. To make health staff aware of the hazards of bottle and marketing techniques of infant milk formula companies.
3. To reach all pregnant and delivering mothers with adequate support and guidance.

Although health staff are aware of breastfeeding as the best alternative for feeding infants yet they strongly believe there is no problem with breastfeeding promotion and status. As a result of lack of correct breastfeeding practices, breastfeeding continues to suffer. Moreover, practices on bottle feeding continue to prevail and interfere with successful breastfeeding.

(UNICEF, 1993)

In conclusion, to become a baby friendly nation we need to become mother friendly and bottle unfriendly, a challenge that requires battles of confidence and perseverance.

The KAP Research has shown that breastfeeding difficulties are mostly in the postpartum, and postnatal periods up to the age of weaning (4-6 months). The difficulties are overcome by adhering to the ten steps of WHO/UNICEF for successful breastfeeding and become intensely critical if bottles, teats, supplemental drinks or food are offered to the child at that age (0-4 months). It is vital to achieve an understanding that the composition of breast milk and the changes that occur in its composition in that period are physical synchronous with the neurological, immunological, physical and emotional development of the child as the mother's health, physical and mental well being. Such physiological sequences can only be achieved by exclusive breastfeeding up to 4-6 months and continue breastfeeding with complementary food up to 2 years or more. This research encountered more than one problem in relation to successful breast feeding, these are:

- 1-The most commonly elicited problems are scanty breast milk supply as well as problem with nipples which are essentially the result of faulty practices.
- 2-Mothers' anticipation for the causes of delaying the initiation of breastfeeding were scanty colostrum followed by pain from Cesarean section and baby's refusal to breastfeed. The most commonly used prelacteal fluids are sweetened water followed by glucose.
- 3-Mothers by nature seem to feed their babies on demand. However night feeding and giving both breasts each feed is not the usual practice. (UNICEF, 1993)

It is concluded that, exclusive breast feeding in its literal meaning (according to WHO/UNICEF) does not seem to exist in Egypt especially that some decoctions, are considered necessary by health workers and are given for the relief of colic, to calm the baby or as extra fluids during an acute respiratory tract infections (ARI) Yansoun, Caraway, etc. are commonly used for these purposes in infants less than 4 months and they are commonly prescribed by doctors. There is clear evidence of the poor knowledge about the benefits related to the mother, child spacing and bonding. Therefore, emphasis during educational campaigns on benefits of breastfeeding should be highlighted. (UNICEF, 1993)

In addition, the study noted poor mother's knowledge about benefits of breastfeeding together with the poor attitudes and practices related to exclusive breastfeeding and weaning.

The KAP gave the following conclusions and recommendations:

1. Promotion of breastfeeding and proper weaning need protection of breastfeeding from inappropriate marketed baby foods, bottles, teats and pacifiers and supporting breastfeeding continuity requires full utilization of all available resources.
2. Assessment-reassessment and continuous monitoring through breastfeeding indicators are necessary as the introduction, training and implementation of BFHI in a hospital does not mean a health facility is baby friendly.
3. Development of health education skills for improved mother/health staff communication is necessary.
4. Encouragement of advocacy in promotional activities.
5. Expansion of MCH to reach out for pregnant mothers and reinforcement with educational and audiovisual materials and media.
6. Ensure that all family planning clinics and centers are providing breastfeeding and lactation management educational material.
7. Ensure that pediatric clinics, hospitals and inpatients are regularly monitored using indicators for assessing health facility of WHO/UNICEF June, 1992.
8. Utilization of mass media, including audiovisual, press and resource material for education to reinforce the educational messages given within the health facility to mothers.

It is concluded that BFHI had a significant effect on upgrading policy, training, prohibition of prelacteals, bottles, pacifiers, infant milk formula promotional materials and breast milk substitutes. (UNICEF, 1993)

"The Egyptian Society of Breast Milk Friends" have published a newsletter entitled Lights "Al-Adwaa". This newsletter is directed to both physicians and general public for support and protection of breast feeding. In its second issue, the editor justifies the values of such newsletter in the following words "The newborns need the proper care, nutrition, support and protection from illness. Breast feeding provides all these needs

and gives these children the best start on the life path. It is a natural procedure and is an essential part of life mesh". For successful and continuous breast feeding, the mother needs effective support from her family, her community and health workers. Each of these has a role to take." This society believe in the International Code for protection and support of breast feeding. They summarized their strategy for implementation of this code in Egypt through the following:

- 1- Allowing mothers to have babies with them (rooming in).
- 2- Letting mothers put the baby to the breast soon after birth.
- 3- Helping mothers overcome problems.
- 4- Giving mothers correct information.
- 5- Eliminating routine bottle feeding.
- 6- Eliminating free samples of breast milk substitutes.
- 7- Removing all advertising for breast milk substitutes. (جمعية أصدقاء لبن الأم المصرية. ١٩٨٩)

Dr. Essa stated that : The doctors' responsibility for successful breastfeeding is a great one. The doctor should help any lactating mother facing problems with patience. There is a simple scientific solution for each difficulty in breastfeeding. This is only if the doctor gives the mother enough time to explore the dimensions of the problem without rushing to prescribe artificial milk. He/she does not realize that this recommendation will be followed by several problems for both mother and child. Problems that they not need and easily avoidable. He also believes that, for a large number of mothers once lactation is established and a pattern of feeding is set, there are no problems. In some, however, as milk secretion increases, certain difficulties arise like breast engorgement, sore nipples and others which with simple and timely advise are easily manageable. Once the process of lactation has been well-established, its maintenance will depend upon the emotional and professional support the mother receives when she returns home with her newborn baby. Unfortunately, the tendency among health professionals in recent times is to be passive spectators and, at times, even active instigators of artificial feeding.

(جمعية أصدقاء لبن الأم المصرية. ١٩٨٩)

In addition, breastfeeding is crucial to the prevention and case management of diarrhea. Breast feeding contribute to the prevention of diarrhea by:

- * Decreasing exposure to pathogens.
- * Enhancing the infant's immunological responses, including passive immunization.
- * Contributing to positive nutritional status.
- * Providing factors that protect the gut and assure appropriate flora.

Continued and intensified breastfeeding during a diarrhoeal episode helps to prevent dehydration and in the presence of dehydration is an essential part of case management.

(جمعية أصدقاء لبن الأم المصرية. ١٩٨٩)

Abul-Fadl, believes otherwise. She indicated that "It is evident from recent studies that there is a peak age for the acquisition of the skill of weaning and like any other learning skill if not learnt at the proper time we may have difficulties in acquiring it. Late introduction of supplementary food (after 6 months) is not only a consequence of too early and insufficient provision of supplementary food under unhygienic condition, but perhaps of equal importance is the failure to stimulate the early acceptance of a varied eating pattern during the weaning process.

(جمعية أصدقاء لبن الأم المصرية. ١٩٨٩)

According to the Egyptian Demographic and Health Survey (EDHS) of 1995, Supplements other than plain water are introduced for many Egyptian children at an early age. One in five children less than two months of age is given supplements other than water, and the proportion receiving such supplements increases rapidly to 76% among children 6-7 months of age.

(MACRO International, 1995)

UNICEF Egypt has an excellent breastfeeding counseling material. It is a flip chart to be used by health care providers in various health care facilities to protect, promote and support breastfeeding. The flip chart is produced in collaboration with the Egyptian Ministry of Health and WHO. The main purpose of this "Education and Counseling Guide" is to encourage exclusive breast feeding until the sixth month and then continued breast feeding for two years with supplementary food. It is advised that this flip chart be used during:

- 1- Prenatal health education sessions.

2- Counseling individual women right after delivery.

3- Group counseling of mothers.

It is also advisable to encourage attendance of other members of the new mother's family with her so as to support her in undertaking correct practices. (UNICEF, 1997)

The Child Survival Project has developed a mass media campaign strategy in 1995. To address the communications needs of each component and the project as a whole, the Child Survival project adopted a social marketing approach in the development of this mass media campaign. Social marketing is "the application of marketing principles to solving social problems", in this case maternal child health problems. the objective of this campaign was to motivate changes in behavior not just impart information. (MOH, 1995)

The campaign was planned with complete understanding that, to be effective, it is critical to have a clear idea of the audience to whom messages are directed. Priority was given to group with the highest morbidity and mortality among infants and children less than five years old and in pregnant and nursing women. Therefore, the CSP 1995 Mass Media Campaign has focused on the following target audience. Primary target audience: married women of reproductive age (15-45) primarily, but exclusively from rural communities. The secondary target audience included husbands of these women as well as other relatives and neighbors. As this audience is typically characterized by low literacy, but high television viewing the CSP 1995 mass media campaign has focused on television and radio spots as well as two 15 minutes video programs for use both on television and by health educators for community screening (MOH, 1997)

"Health Nutrition Guide" is another guide that was also produced by UNICEF and USAID but much earlier than the breast feeding promotion one, 1986. This guide was produced mainly for nurses working in various health care facilities and who have the mandate of providing health education for pregnant women in prenatal care clinics. It provides guidance for counseling and teaching proper nutrition starting from early

pregnancy and through breastfeeding and weaning of the newborn. It also gives the nurse handy information on growth and nutrition monitoring of infants and how to take good care of nutrition for the sick child. (الملطوي، ١٩٨٦)

Wahba (1990) studied the sociocultural factors on immunization and Diarrhoea control in Egyptian villages. She noted that by and large, breastfeeding is continued throughout the first year of the baby's life. Sometimes breastfeeding is terminated before one year, and sometimes it continues to the end of the second year, even if the mother is pregnant again.

In her study, she stated that, although solid foods are introduced to infants as early as the fourth month, via little bites of various foods, the villagers seem to have no idea what foods are needed by the child during the first three years of life. Her study concluded that, to encourage prolonged breastfeeding together with good supplementary foods prepared by hygienic methods, private medical doctors, health unit doctors and pharmacists should work together to create an awareness among mothers of the dangers of bottle feeding. The promotion of hand-washing, especially after defecation and before and after eating, is also essential. Finally, the hygienic disposal of excreta, especially that of infants and young children, would tackle the problem of disease transmission at source. In conclusion, Wahba, S settled several recommendations, the most important of which are the following:

1. Breastfeeding should be promoted.
2. Bottle feeding should be discouraged, and replaced by a cup and spoon for weaning
3. Immunization in distant areas should be promoted.
4. People should be taught home preparation of ORT (Oral Rehydration Therapy) and its importance as treatment for diarrhoea.
5. Pictures should be provided with illustrative material as simple as possible to express health education messages, such as fecal-oral contamination and the importance of hand washing to prevent it. (Wahba , 1990)

According to the "Safe Motherhood and Child Spacing in Practice Primary health Units Manual", successful breastfeeding is a learned . Health providers need to increase their

knowledge and experience in the art and technique of successful breast feeding. Physicians working in primary health care units should be familiar with the problems which might face birth spacing methods users and how to solve them with preservation and support of breastfeeding.

(MOH, 1993)

Infant and Child Immunization :

The Egyptian Ministry of Health in collaboration with UNICEF and WHO have developed "Vaccination Guide for Health Workers". This guide follows the Expanded Program for Immunization adopted by the World health Organization in 1974. It includes child immunization against T.B. (BCG Vaccination), Diphtheria, Tetanus, Pertussis, (DPT Vaccine), Poliomyelitis (Sabin Vaccine) and Measles (Measles vaccine). These six vaccines protect the Egyptian child against the six target diseases. In addition, Viral Hepatitis B (HB Vaccine) was introduced as one of the obligatory vaccinations during the first year of the child's life. The program also includes vaccination of pregnant women with tetanus vaccine to protect both mothers and newborns against tetanus. This vaccination protects all women of child-bearing age, including pregnant women, against tetanus during and after labor.

(MOH, 1992)

The Egyptian Ministry of Health has undertaken several immunization campaigns in the last few years. These campaigns are usually country wide and are called National Immunization Days. The aim of such campaigns is to support routine immunization by provision of complete coverage of young children even if they were not immunized before. These national immunization days are considered a crucial weapon to eradicate polio from the countries that still suffer from this serious handicapping illness.

(MOH, 1992)

"The Situation of Children in Upper Egypt" published by UNICEF in 1989 stated that : Although universal coverage has been almost achieved, immunization coverage for every antigen is lower in Upper than in Lower Egypt.

(UNICEF, 1989)

In the last few years, many countries have succeeded in combating polio through intensive immunization campaigns. Complete eradication of the disease did not happen

yet because simply countries who still have it transfer it to others who theoretically have eliminated the disease. Accordingly, all countries should continue to immunize all their children.

(UNICEF, 1989)

Ministry of Health has published another very useful guide for health service providers in Immunization centers. The guide is in Arabic and is titled "Immunization in Practice". It provides detailed guidance to all those working in the MCH field and responsible for mother and child immunizations in Egypt. According to this guide Expanded Program for Immunization targets six diseases: Tuberculosis, Poliomyelitis, Diphtheria, Pertussis, Tetanus and measles. This guide emphasizes the importance of health education in immunization programs. It categorizes this health education role into the following:

- 1- The health service provider should make the immunization experience a pleasant one for the local community members.
 - 2- He/she should discuss with mothers and in groups various messages targeted to the general public in the field of immunization, e.g. immunization schedule, adverse reactions and what the mother should expect or should not expect after her child's immunization session.
- (MOH, 1992)

The Egyptian Demographic and Health Survey, 1995 has indicated that 79.0% of children 12-23 months can be considered to be fully immunized. Only 3.0% had received no vaccinations. Coverage for BCG and the first two doses of DPT and polio exceeds 90.0%.

(MACRO International, 1995)

The coverage of DPT, polio, and measles in Upper Egypt lag about 15% behind the national rates in 1987; in 1987, the national coverage rates were 82.0%, 88.0%, and 76.0%, compared to 71.0%, 75.0%, and 64.0% respectively in Upper Egypt. Coverage of BCG and

the proportion of children fully immunized in Upper Egypt are about 50.0% lower in Upper Egypt than the national rate: in 1987, the national coverage rates were 72.0% and 58.0% respectively, compared to 50.0% and 38.0% respectively in Upper Egypt.

(MACRO International, 1995)

To improve the immunization program for Egyptian children, there are major problems to be faced; among which are:

- 1- Nurses refused to vaccinate children suffering from diarrhea or a fever.
- 2- delay in birth registration is the main cause of failure to have vaccination doses at the right time because mothers say the child is a certain age, while the certificate shows a younger age. (وزارة الصحة والسكان. ١٩٩٥)

Infant Growth and Development:

Growth monitoring is very important for children. The purpose of monitoring growth is to ensure that the child is growing well and any slowing of growth is detected and dealt with early. The most commonly used measure for growth monitoring is the weight for age because it is very sensitive measure of growth and measurement can be easily made, so high level of accuracy is possible. The Child Survival Project Physician Training Manual explains how physicians can follow-up infant and child growth through use of international standardized growth curve.

(MOH, 1992)

The Problem of Diarrhea in Egyptian Children:

Wahba (1990), has conducted research concentrating on Upper Egypt. The research investigated the physical and sociocultural context of diarrhoeal disease in Rural Upper Egypt. Through Rapid Assessment Procedures (RAP), and although this research included a small sample (16 households in two villages), it revealed many important aspects of the local lifestyle which are central to this subject. Among these aspects are the following:

- The delay in initiation of breastfeeding, and so loss of colostrum
- The widespread incidence of bottle feeding- whether with tisanes from the first day of life or with powdered milk after that.
- The use of unsanitary methods in bottle preparation and cleaning
- The filthy latrines, inadequate personal hygiene.
- Late or non-existent birth registration, and a general neglect for vaccination schedules.

She notes in her study that in order for mothers to adopt new attitudes and patterns of behavior through health education, we need the involvement of all available government institutions, teachers, religious leaders, community organizations and the mass media, in order to inform parents of the importance of birth registration soon after delivery, and its role in getting infants vaccinated on time. (Wahba, 1990)

Recommendations of "International Conference on Future Challenge After Oral Rehydration and Expanded Program on Immunization" in Cairo on 1989 stated that: The time has come to strengthen attention to prevent diarrhoeal diseases and to add breastfeeding promotion as a essential and sustainable component of every diarrhoeal control program in the world. Promotion of breast feeding is an important measure for the prevention of diarrhea and malnutrition. This message should be propagated clearly to all levels in the medical field and to the mothers and decision makers. (MOH, 1989)

Fateem (1990) has noted in her study that, the Ministry of Health and UNICEF have been in cooperation in the design, and promotion of health education and health communication packages, including printed materials (posters, booklets, flyers and flip charts), to be used by front-line workers to increase family knowledge on preventing major childhood diseases. These health promotion materials aim at raising the awareness of families, and providing front-line staff with simple and clear information. Also, these materials help to remind health workers of the main messages on the control of diarrheal diseases (CDD) and on immunizations (EPI). She conducted a very informative study on these materials. Her study comprised undertaking several focus groups sessions on these promotional materials in four Governorates, Fayoum, Assuit, Sohag and Qaliubeya. (Fateem, 1990.)

This research had major findings regarding these materials, the most important of which are the following:

1. There is a real need for printed health promotion materials both for front-line workers and for the public.
2. Special materials should be published for front-line workers and different materials for the public. There should be a special type of printed material for the use of

nurses, rural women's leaders and volunteers, and a different, simple type for the public in general.

3. A large number of participants had never seen some of the materials before, such as flyers and the flip chart. However, the majority of respondents correctly identified the diarrhea and immunizations posters.

4. We need comprehensive educational packages, which would link all printed materials, characters, drawing, television promotions, posters and flyers with each other.

5. To get maximum benefit out of such printed materials, they should be distributed on the widest possible scale. Other organizations should join the Ministry of Health in explaining the materials to the public. This could be done by rural women's leaders, scouts, and information centers.

(Fateem, 1990)

Maternal Health, Serious Issues For Consideration:

According to Maine's study in 1997, more than one out of every five deaths among Egyptian women in their childbearing years are related to pregnancy. In contrast, in the United States, only about one out of every 200 deaths among such women is a maternal death.

(Maine, 1997)

National Maternal Mortality Study conducted in Egypt during the period 92-93 indicated lack of antenatal care or poor quality care contributed to 33.3% of deaths. Of these, 40.2% of the women had sought antenatal care but were judged to have received poor quality care.

(MOH, 1993)

Another study, "Safe Motherhood and Child Spacing in Practice", revealed that over eight million women each year face pregnancy and delivery related morbidity, the vast majority are preventable. Failure to obtain appropriate care during pregnancy and childbirth can lead to debilitating conditions even in previously healthy women. (MOH, 1993)

Activities proposed by the Ministry of Health and Population (MOPH) to decrease maternal mortality are the following:

1. Increase prenatal care services.

2. Increase deliveries under a trained person supervision.
3. Continuous training for the health team responsible for maternal care including traditional birth attendants.
4. Support of the referral systems between primary health care facilities and specialized care facilities.
5. Support quality care services in MCH centers and hospitals.
6. Encouragement of birth spacing by increasing health education and family planning practice.

(وزارة الصحة وتنظيم الأسرة، ١٩٩٥)

Furthermore, IEC can play a significant role in decreasing maternal mortality and morbidity. Egypt has successfully used television campaigns for a variety of health problems- consideration should be given to such campaign on maternal health. The communications strategies used should focus on behavior change and be precise. (Jacobson, 1994)

A very informative study conducted by Robinson and El-Zanaty (1995), indicated that the infant mortality declines of the last several decades has been distributed unevenly among the regions of Egypt. Between 1980 and 1992, the IMR in Urban Governorates fell by 46.0%, in Lower Egypt by 52.0%, in the Frontier Areas by 39.0% and in Upper Egypt by only 27.0%.

Maternal health has only recently become an active focus of population policy. Egypt established the National Council for Childhood and Motherhood in order to provide the proper economic, social and health conditions for safe motherhood. The primary emphasis of this council is on child welfare and reducing maternal mortality. Little or no attention has been paid to reproductive morbidity, both gynecological and obstetric, or other aspects of women's health, such as the practice of female circumcision, which remains widespread and approved. (MOHP, 1995)

“MOHP Maternal and Infant Care Strategy” document indicates that infant and maternal mortalities in Egypt are still high. Maternal mortalities are mainly due to the following:

- 1- Inadequate coverage of health care services for prenatal and postnatal care.
- 2- High rate of fertility.
- 3- Low level of health awareness in mothers specially in rural areas.
- 4- low quality of services in some health facilities.

(MOHP, 1995)

UNICEF's report on “the State of The Egyptian Children” confirms that child health can not be separated from maternal health. Adolescent and underweight mothers have low birth weight infants and children of anaemic mothers suffer from anaemia earlier than the children of non-anaemic mothers. Many infants in the Arab world are born disadvantaged in terms of their health. They carry the burden of poverty and poor maternal health embodied in a low maternal caloric intake or inadequate weight gain during pregnancy, a low pre-pregnancy weight, a short stature, malaria, and reproductive tract infections, all of which are factors that influence birth weight (WHO). (Zurayk, 1994)

Younis et al (1992) study revealed that, the heavy disease burden shown to be borne silently by women in the community under study, in rural Egypt, gives ample justification for advocating for change by : 1) posing a challenge to national health programs to go beyond safe motherhood, child survival and family- planning in its services to women, and 2) posing a challenge to education and training programs in the health and social sciences to bring closer together their perspectives and concerns with the social well-being of women in communities of the developing world. He believes that health education programs can certainly play a significant role in addressing personal hygiene behavior among women and men in such communities. (Younis et al, 1992)

Several studies conducted in Egypt in the last few years , as well in other countries in the Arab region as a whole, indicated that marriage at a young age (15-19) has been a characteristic of the region even in the recent past, and is still prevalent in some countries. A more recent study conducted in Egypt by CAPMAS on 1993, indicted that

the percent married at age 15-19 as 12 percent, showing applicable decline in early marriage when compared to the PAPCHILD survey, yet with wide variation by place of residence, ranging from 4 percent for urban to 17 percent for rural areas. (Zurayk, 1994)

According to Zurayk (1994), in the Arab world, the majority of women marry at a young age and experience high levels of fertility. Moreover, many of these women live in poor socio-economic environments and do not have access to quality health services. Early reproduction below age 18 is known to impose severe drains on a woman's body that are detrimental to her health and to that of her infant.

Furthermore, Kattab (1995) indicates that there is an absence of informed knowledge on health, as well as of formal and informal networking by which women can learn of the realities surrounding their health condition. Women complain of lack of communication with health service providers (especially in the unpaid or free health services). Cultural differences and gender interference undoubtedly inhibit more open communication and reinforce the culture of science, discouraging further visits to the health centers.

The same study revealed that the majority of women believe that it is best to wait a while before becoming pregnant. On the other hand only 7 women (out of approximately 1500 women under study) reported using contraceptives before having the first child. In other words, while most women say that they wished to postpone pregnancy, almost all of them let nature run its course. (Kattab, 1995)

Another study conducted by Younis et al (1992) in rural Egypt has indicated that while international attention has come to focus recently on the problem of high levels of maternal mortality in developing countries, little is known about the prevalence of reproductive morbidity which is estimated at much larger magnitudes. The vast majority of women are shown to be suffering from at least one gynecological or related morbidity. This high prevalence of reproductive morbidity is certainly disabling to women in the study community who are mostly uneducated and of low socio-economic class. (Younis et al, 1992)

Prenatal, Perinatal and Postnatal Care:

The Child Survival Project Physicians manual states that antenatal care program in Egypt have the following main objectives:

1. To maintain the mother & fetus in the best possible state of health.
2. To recognize & Manage of high risk pregnancies.
3. To educate the mother in the physiology of pregnancy and dispute fears and ignorance.

This manual has certainly covered all topics of concern for prenatal care, labor, postnatal care and care of the infant especially breastfeeding, growth monitoring and weaning.

According to this manual the objectives of postnatal care are:

1. Detection of any complication of labor.
2. Follow-up of complications of pregnancy.
3. Giving advise about breast feeding, maternal nutrition, and postnatal exercises to strengthen abdominal and perennial muscles.
4. Counseling for proper birth spacing and methods of contraception. (MOH, 1995)

Health education for mothers should cover the following topics :

- 1- Breastfeeding and nutrition during lactation.
- 2- Pelvic floor and abdominal wall exercises.
- 3- Care of the baby and immunization.
- 4- Counseling about birth spacing and contraception. (MOH, 1995)

The prevalence of anemia among women attending urban family planning centers reached 46.0% while in rural centers is varied between 65.0% and 71.0%. This may be a reflection of repeated pregnancies and deliveries. (UNICEF, 1988)

Zurayk's study in 1994 confirms that women view pregnancy as a normal happening and do not feel the need to seek care unless they experience a complaint and often if it is of a serious nature. (Zurayk, 1994)

The Ministry of Health together with UNICEF conducted a “Knowledge Attitude and Practice” (KAP) study in Egypt in 1993. Although this study was a small scale one, it indicted that there is a serious lack of prenatal care for women under study mothers attending for prenatal care and delivery in maternity health facilities are less than 30%. The study concluded that upgrading antenatal care and reaching all women in the child bearing age requires intensive mobilization campaigns together with the upgrading of health services systems. (UNICEF, 1993)

In addition, a study conducted by the Ministry of Health in Egypt in 1991 showed that, 45 percent of currently pregnant women sought prenatal care, overwhelmingly all to see a physician, and 52 percent sought these services among women with births in the five years preceding the survey. The proportion seeking prenatal care among these latter women reached 70 percent in urban areas as compared to 44 percent in rural areas. (Zurayk, 1994)

In terms of trained attendant during delivery, results of many survey and observations, particularly in poor communities in Arab countries, indicate that women still prefer to deliver at home and are used to the traditional “Daya” attending the delivery. For cultural reasons, Egyptian women, particularly in rural areas, prefer to use the Traditional Birth Attendants (Daya) for home deliveries, many of whom are untrained. Much of the maternal and newborn mortality and morbidity is attributed to unsafe Daya practice and failure to refer the complicated deliveries to the health units. Several studies supported these facts and pin-pointed that the Ministry of Health is particularly underutilized for parental care, delivery and post-partum services. (UNICEF, 1988)

The Egyptian Demographic and Health Survey (EDHS) of 1995 confirms that the majority of children in Egypt are born at home. Only about one-third of deliveries take place in health facilities: 18% in governmental facilities and 15% in private hospitals or clinics. (MACRO International, 1995)

Zurayk (1994) believes that health services directed at women in most Arab countries currently concentrate on family planning, prenatal care and child health services. These services address the elements of reproductive choice and successful childbearing

Important as these elements are, there is a need to expand services to include a broader concern with gynecological disease and risk. There is, moreover, a need to provide social support and outreach services to women to assist them in overcoming the constraints in their life situation that prevent them from seeking health care for themselves. It is important also to improve the quality of care of services, and to seek to understand the perceptions of women of the health and of the treatment options. (Zurayk, 1994)

Family Planning Services:

EDHS 1988 confirmed the effect of birth spacing on infant mortality. It showed that less than two years spacing is definitely too short. Furthermore, a child's chances of surviving are better with a three-year interval than with two-year interval. (MACRO International, 1988)

High fertility rates affects both maternal and infant mortalities. One out of eight infants born after too short interval will not survive his or her first year of life. This is nearly three times the mortality rate found among children born after longer intervals. Closely spaced pregnancies are common in Egypt, especially among younger mothers. Nearly one-third of second or higher order births to women in their twenties are less than two years apart. Overall, one out of four non-first births to women in Egypt take place "too soon". The use of family planning enables couples to leave more than two years between their children, improving the health and well-being of the entire family. (UNICEF, 1988)

Egyptian efforts in the field of family planing go back to 1937, the Egyptian Medical Association held a conference on family planning emphasizing the health point of view. In 1954 an International Conference on Population was held in Rome and the Egyptian delegation presented a work paper on the population problem. However, this early concern about the population problem was unable to solve the persistent and rapid population growth, which constituted a serious challenge to all development plans and economic reforms in Egypt. (Ministry of Information, 1994)

Since the 1960s, the Egyptian government has a stated policy commitment to lower rates of population growth, but until recently efforts had appeared to be relatively unsuccessful. Naguib & Lioyd (1994) question the extent to which recent success in family planning is due to, more realistic policies, as well as, to more fundamental changes in economic and family life? They also raise the issue that, within the Egyptian context, is greater gender equity a necessary prerequisite to demographic change or a necessary outgrowth of it?

During the 1970s and the 1980s, researchers undertook the largest ever surveys aimed at understanding the determinants of fertility and infant and child mortality in several developing countries. Comprehensive analysis of this data have shown unequivocally that birth spacing is a critical factor to improved child survival. Survey and focus-group research conducted in Egypt between 1988 and 1993 reveals that most women and their husbands support family planning (FP) but they know little about the options available and often labor under misconceptions about the methods with which they are familiar. (Johns Hopkins University, 1994).

On the other hand great progress have been achieved so far. According to NPC, in 1960 the rate of contraceptive use in Egypt was 10.0%, the Egyptian family had an average of seven children and the population was 25 Million. Toward a strengthened program, the NPC believes that countries should reach the replacement level (Where the average number of children per family should not exceed two children) and stop population explosion to the extent at which the country can provide its people with a descent socioeconomic standard. Egypt can reach this replacement level in the year 2013 if the rate of contraceptive use increases to 70.0% and accordingly fertility drops to 2 children per family. If this target is achieved Egypt's population then would be 73 instead of 92 Million. (NPC, 1991)

USAID has provided funding and technical assistance to Egypt since 1977. The first Family Planning Project was during the period 1977 and 1987. The main purpose of this project was to strengthen family planning services and increase the availability and variety of contraceptive devices nationwide so that more couples practice family planning. The second project was during the period 1983-1994. The purpose of this

project was to strengthen and expand Egypt's population/family planning activities so as to increase family planning practice among married couples of reproductive age. The third and current project is assigned to be during the period 1992-1997. The purpose of this current project is to increase the level and effective use of contraception among married couples in Egypt. The total fertility rate in Egypt is now well below four births per woman, or about 40.0% below the rate of 7.1 prevailing when the population policy and program was adopted. About 50.0% of all married women in the reproductive age are currently practicing family planning as opposed to 10.0% in 1960 (Robinson & El-Zanati, 1995).

In Egypt family planning services are accessible to almost everyone. 96.0% of all Egyptian couples live within 4 kilometers and 30 minutes of family planning facility. Convenient access to family planning services along with widespread access to televised information about family planning, helps to explain rising use of contraception in Egypt, which reached 47.0% in 1992. Even in countries with strong family planning programs, however, urban couples have better access to services than rural couples, largely because it is costly and difficult to extend services to sparsely settled rural areas. In Egypt the Government IEC program has helped achieve virtually universal awareness of family planning. Nearly all Egyptian households have television sets, and 90.0% of Egyptians watch T.V. regularly. Communication activities, relying largely on television combined with ready access to services, have helped contraceptive prevalence to rise by 17 percentage points between 1984 and 1992, from 30.0 % to 47.0 %. (Robey et al, 1994).

The Egyptian Government emphasizes the promotion of family planning accessibility through a wide network of public and NGO family planning clinics. A number of years ago, the Egyptian Family Planning Program began using Radiat Rifiats program in order to extend services into the country's rural communities where the pronatalist values strongly prevail. Yet, there is a concern regarding the ability of the Radiat Rifiats program to motivate and recruit women for the clinic based program. Senior policy makers and program managers need to assess and analyze the role the Radiats have played within their communities as well as their contribution to the family planning program. (Guimie et al, 1995)

A study conducted by the International Population Council in 1995 reflected serious deficiencies in Raidats technical information that hamper their abilities to advise and counsel women on contraceptive side effects and rumors surrounding contraceptive use. The follow up of family planning acceptors was not frequently mentioned by Raidats as a customary activity to ensure continuous use. On the other hand women requested help from Raidats and expressed the need for more regular and frequent visits. (Guimie et al, 1995)

EDHS 1995 indicates that childbearing begins early for many Egyptian women. One in ten teenagers has given birth or is pregnant with their first child. Closely spaced births are also common. More than one-quarter of non-first births occur within 24 months of a previous birth. One factor contributing to short birth intervals is the relatively brief period during which the average Egyptian woman is amenorrheic following a birth. By 12-13 months after a birth, mothers of the majority of births (77 percent) have resumed menstruation. Overall, the median duration of postpartum amenorrhea is 5 months. The relatively short duration of postpartum amenorrhea is related to breastfeeding patterns, especially the early introduction of supplemental foods. Despite the reductions in fertility levels, many women are having more children than they consider ideal. At current fertility levels, the average woman in Egypt is having one birth more than she wants. For children, the higher than desired fertility is frequently associated with increased mortality risks. More than half of all births in the five-year period before the survey had a greater chance of dying because of the mother's age (under 18 and over 34), high birth order (3 or more), and short birth interval (less than 24-months). (MACRO International, 1995)

On the other hand, according to EDHS 1995 fertility in Egypt has declined steadily from over 5 births per woman in the early 1980s to 3.6 births at the time of the EDHS 95. Differentials in fertility by place of residence are marked. In urban areas, the total fertility rate is 3 births per woman, more than one child lower than the rural rate (4.2 births per woman). The highest level of fertility is found in rural Upper Egypt (5.2 births per woman) while the lowest level is observed in urban Lower Egypt (2.7 births per woman). Women in the Frontier Governorates are having an average of 4 births, a

rate that is higher than that in any other area except rural Upper Egypt. By place of residence, current use is highest among women in urban Lower Egypt (59.0 %), followed by the Urban Governorates (58.0%). Use among women in urban Upper Egypt (50.0%) is twice the level in rural areas in the same region (24.0%). Marked differences in current use levels also are observed between rural areas in Lower Egypt and Upper Egypt. While current use is 54.0% among rural women in Lower Egypt, the level is only 24.0% in rural Upper Egypt. The IUD is the most frequently used method in every residential category. Two thirds of the women with an unmet need for family planning are under age 35. More than half have four or more children, with more than one-fifth having at least six children. Slightly more than half of the women in need had given birth within the two-year period preceding the survey. Women in need of family planning are heavily concentrated in the rural area. Nearly 40 percent live in rural Upper Egypt. Many women in Egypt have had more children than they would now prefer. This can be taken as an indicator of unwanted fertility. (MACRO International, 1995)

In addition, EDHS 1995 indicated that as in other Islamic countries, many couples in Egypt observe the traditional practice of abstaining from sexual relations for a period of 40 days following a birth. Reflecting this tradition, the percentage of births for which the mother is still abstaining decreases rapidly, from 70.0% in the two-month period immediately following a birth to 14.0% at 2-3 months after a birth. (MACRO International, 1995)

The Egyptian National Population Council (NPC), the main body responsible for coordination and integration of all efforts related to population, has published a very informative document in 1995. This publication records all demographic statistics that relate to the NPC's work during the period 1985-1995. According to this NPC publication, the number of family planning clinics have increased from 4043 to 4535 during this ten-year period. In addition to building new clinics, several efforts were done by governmental, as well as, non-governmental organizations to upgrade quality of services and service providers in the field of maternal and child health with special emphasis on family planning services. (NPC, 1995)

To support the Egyptian government in achieving these goals, several international funding agencies gave a hand, among which are United State Agency for International Development (USAID), United Nations Family Planning Association (UNFPA), Japanese International Cooperation Agency (JICA) and The European Union (EU). (NPC, 1995)

The Egyptian Family Planning Success Story:

In 1994 and in preparation for “the International Conference on Population and Development” held in Egypt in Sept. 1994. A very enlightening document was published to be presented and distributed during the conference; “ The Egyptian Family Planning Success Story”. According to this document, the lessons learned for the Egyptian experience were many; the most important of which are the following:

1. High-level policy makers must strongly, whole heartedly and repeatedly advocate strategies to reduce fertility through pro-active endorsement of family planning interventions and for required resources to implement programs.
 2. Choice of modern contraceptive methods for potential clients is essential. Family planning clients have contraceptive method preferences based on individual intentions to space births, either short- or long-term, or to limit childbearing, as well as daily lifestyle and physiological conditions.
 3. Well-designed information, education and communication campaigns using mass media have played an important role in raising awareness about family planning in Egypt. Other innovative strategies such as using local folk dancers, singers and theater can also be highly effective.
 4. A high quality family planning program costs money. Resources from the national government budget, foreign donors and local private sector must be mobilized and sustained in order to meet the financial requirement.
 5. Mobilizing the private sector has been a vital part of Egypt’s success in family planning.
- (NPC, 1994)

According to the article “Achieving a Demographic Breakthrough”, the impact of the Egyptian national population program has been visible in the demographic change. One of the major causes for the demographic breakthrough is the wide promotion of family

planning. The family planning practice rate climbed from 24.2% in 1980 to 47.1% in 1992. The speedy rise in the use of contraceptives has been attributed by several factors: **First**, because of the strong and frequent endorsement by the Grand Mufti that Islam supports family planning, many people in this predominantly Islamic country have changed their traditional view that family planning was forbidden by the Koran. 76.6% of ever-married women believe that religion allows family planning.

Second, the political commitment from the President Mubarak to Ministries led to the early formulation of the national population council and the steady provision of the large budget for the national population program. Egypt adopted national population policy as early as 1965, when a "Supreme Council for Family Planning" headed by the Prime Minister was established. The Council has evolved into the Ministry for Population and Family Welfare that coordinates all population programs in Egypt. As for the budget, the Government covers about 40% of the total cost.

Third, Extensive international support has been useful. Technical and program assistance provided by donors including the United States Agency for International Development (USAID) has greatly contributed to development of effective strategies for Mass media campaigns and service delivery. Donors financial assistance has accounted for as much as 50% of the total costs of the national family planning program.

Fourth, efficient service delivery has been made possible because most physicians, nurses, etc., are deployed in urban areas in Lower Egypt where the majority of the people live. It is in these areas where most gains in the recent contraceptive prevalence have occurred. (Integration Journal, 1994)

One of the major successes of the Egyptian national family planning program is the Minya Initiative. It was an 18-month pilot project to promote the use of family planning (FP) services through "Information, Education and Communication" (IEC) and community mobilization in the rural governorate of Upper Egypt. It extended from March 1992 to September 1993. The initiative exceeded its goal of raising the contraceptive prevalence rate (CPR) in Minya by 4 percentage points: in fact, the CPR increased from 22.0% to 30.0%. (NPC, 1994)

The "National Maternal Mortality Study" conducted in 1992-1993 revealed that great progress has been made with family planning programs in Egypt. This undoubtedly have reduced maternal deaths. However, according to the families of the deceased women, in roughly 14% of the unwanted pregnancies, the women had not been using contraception. (MOH, 1993)

According to the Egyptian Demographic and Health Survey conducted in 1988, 30.0% of women who do not want any more children are not using contraception, and only 14.0% intend to start. Greater effort must be made to reach these women with family planning. (MACRO International, 1988)

More recently and according to EDHS 1995, Despite the rapid rise in family planning use, one in six women in Egypt has an unmet need for family planning. Although these women either want to delay the next birth at least two years or they want no more children, they are not using family planning. The Fertility behavior in Egypt is changing. Egyptian families are becoming smaller. In the late 1970s, women were having an average of more than five children. Now, largely due to increase in the age at which women marry and in the use of family planning, the average woman is having between three and four children. The declines in fertility are taking place in both Urban and rural areas. However, rural families continue to be larger than urban families. The use of family planning methods doubled between 1980 and 1995. Most of the growth in use was the result of increased adoption of the IUD. (MACRO International, 1996)

In summary, Naguib et al (1994) have noted; rapid population growth is viewed by the Egyptian government as being the main determinant to socioeconomic development. The population growth rate, which was estimated to have peaked in the mid 1980s at 2.6 percent, is beginning to fall slightly (United Nations, 1993). Deaths to children under the age of five have fallen from 300 to 94 per 1,000 live births in the last 30 years (Ross et al., 1992) and the total fertility rate (TFR), estimated to be around 7 births per woman in the early 1960s, had fallen to about 4 children per woman by the early 1990s (Naguib et al, 1994)

The National Population Council (Maternal and Infant Care Strategy, 1995), recommends that we should increase our efforts in increasing awareness and services in the field of family planning in rural Egypt specially Rural Upper Egypt. It is also crucial to provide quality family planning services through introduction of new family planning methods and encouraging local production of methods. This should go hand in-hand with good counseling and follow-up. (NPC, 1995)

Information, Education and Communication (IEC) in Family Planning:

The basic roles served by IEC in family planning programs are:

- 1-To Create an awareness of family planning.
 - 2-To demonstrate that family planning is crucial to the improvement of the quality of life of the individual, the family, and the community.
 - 3-To provide correct information on contraceptive methods, combat rumors, and correct misinformation.
 - 4-To persuade people to take advantage of available family planning services.
 - 5-To help acceptors choose the right method for themselves and use it properly and continuously.
- (Johns Hopkins University, 1991)

The Information, Education, and Communication (IEC) Subproject of the Egypt population/Family Planning II Project (1989-1993) has been implemented by the Ministry of Information's State Information Service (SIS) through its IEC Center and 58 local information centers (LIC). SIS has made major efforts to increase family planning knowledge and contraceptive awareness and practice through the mass media and interpersonal communication. It has demonstrated that, it has a comparative advantage as an IEC family planning implementing agency in three areas: reaching rural women through television; reaching rural men through interpersonal communication activities; and using its extensive network of local influential and religious leaders. (Johns Hopkins University, 1991)

In an evaluation of these SIS/IEC family planning activities it was recommended that, in order to increase its efficiency in reducing the family planning acceptance-practice gap, SIS needs to place greater emphasis on rural Upper Egypt where contraceptive rates remain low. (POPTECH, 1993)

To improve the Egyptian family planning program, agencies working in the family planning field held various interagency meetings. The goal of these interagency meetings is to coordinate various family planning activities. Among these activities are information, education and communication efforts carried out by both public and private organizations working in the field of family planning. One of these meetings was held in 1990 to establish IEC guidelines with three main objectives:

1. To standardize the common understanding of IEC.
2. To introduce norms and standards helpful in planning, implementing, and evaluating IEC activities.
3. To supply service providers, trainers, and managers with reference guide furnishing information about planning and implementing IEC activities and training relevant personnel. (Johns Hopkins University, 1991)

Efforts to broadcast family planning information through the mass media, particularly television, appear to be successful in reaching Egyptian women. Two thirds of currently married women reported watching a television broadcast about family planning in the month before the 1992 EDHS interview; one-third had heard a family planning message on the radio during the same time period. In Egypt, unlike many other developing countries, access to television is widespread, and more married women watch television daily than listen to radio (75.0% versus 55.0%). (Johns Hopkins University, 1991)

“The State of Egyptian Children” report published by UNICEF in 1988 stated that, publicly-operated television reaches all regions of Egypt, including the remote frontier governorates. More than 70.0% of Egyptians watch television daily. More recent data (EDHS 1995) indicate that more than 80 percent watch television daily. One in five women reported exposure to all three media, and only 13 percent had no media exposure. Knowledge of family planning methods and sources is virtually universal

among currently married women in Egypt. Broadcasts of information about family planning have wide coverage. More than eight in ten ever-married women had heard a family planning broadcast on television or radio recently. Nearly four in ten women reported that television spots had influenced them to seek more information about family planning. (UNICEF, 1988)

The television sociodrama *And the Nile Flows On* was aired on Egyptian television in November and December 1992 as part of a larger, ongoing effort to influence family planning awareness, attitudes, and practices through the enter-educate (education through entertainment) approach. In recent years, the enter-educate approach has gained popularity as a means to inform and influence the public about important social issues. The guiding assumption of this approach is that the coverage of education and entertainment through the medium of a dramatic television serial can legitimate social innovation, such as family planning, and influence behavior. This serial demonstrated that the role of the Muslim clergy as interpreters of Islamic principles, even in fictional form, continues to be a powerful force in the daily life for many Egyptians. This suggests that Islam remains a vital force in Egyptian society--a force that can help to advance family planning. Research on the impact of this serial on the public revealed that, family planning policy will go further when aligned with Islamic teachings. It would be worthwhile to investigate the possibility of using the mosque as well as the theater to promulgate family planning messages. (Johns Hopkins University, 1994)

According to Brauce et al (1995), family planning and public health programs in many settings are using their communication campaigns to spark a more responsible dialogue between partners about the use of contraception and to promote concepts of masculinity that include planned and committed fatherhood. Recent examples of the latter include a public service announcement shown nightly on Egyptian television that urges "real men to prove themselves not by big talk but by how they take care of their families".

The MOHP has produced a variety of educational and counseling materials. One of the latest educational and counseling materials produced by the Ministry of Health is a flip

chart in Arabic for health service providers in the field of reproductive health. The main purpose of this counseling flip chart is to help health service providers render good quality counseling in the fields of family planning, postpartum contraception and voluntary surgical contraception. (وزارة الصحة والسكان، ١٩٩٦)

The Child Survival Project training manual presents counseling procedures in family planning. They summarized these procedures as **GATHER**; **G**: Great the clients in a friendly and helpful way. **A**: Ask clients about their needs. **T**: Tell clients about available family planning methods. **H**: Help them to decide. **E**: Explain how to use. and finally **R**: Return visits should be planned. (MOH, 1990)

Fouad (1994) believes that the decision to reduce family size is not only the responsibility of women but men as well. Related factors include; couple's level of education, age at first marriage, type of family the couple is living with, and the age difference between couples. The level of illiteracy for women was 62.0% in 1986 and was expected to be 57.0% in 1991 and 52.0% in 1997. The data in 1991 show that 57.17% of women were illiterate. The achieved values is equal to the planned in 1991. Women's role in reducing family sized is affected by their level of education. Well educated women tend to choose suitable husbands with the same higher level of education. Since the mean number of children ever born to couples with higher education, encouraging women to reach the higher levels of education leads to smaller families. There is a positive relationship between the level of the woman's education and her practice of family panning. EDHS 1995 indicated that up to Forty-four percent of the women have never attended school, 20 percent attended but did not complete the primary level, and 13 percent have completed primary school and/or attended at least some secondary school. Only around one-quarter of women have completed secondary school or higher. (MACRO International, 1996)

With all this success in hand, there is clearly an unmet need for family planning in Egypt. Nearly two-thirds of currently married Egyptian women report that they do not want to have any more children. An additional 16.0% would like to delay the birth of

their next child for at least two years. Yet, about 47.0% use contraception. This unmet need for contraception, together with the fact that television is the most frequently cited source of family planning information, has encouraged the use of television to increase awareness of family planning in Egypt. (Johns Hopkins University, 1994)

Service Delivery Referral System, an Unused potential:

According to Zuryak (1994), there is tendency in developing countries in general to organize services in a vertical, parallel fashion rather than taking a comprehensive view of the provision of services, particularly to vulnerable groups such as women and children.

The MCH services are directed towards urban, lower class women mainly for pre- and post natal care and family planning services (The Population Council, 1994). In rural health clinics, often the same providers render both MCH and FP services to women and children. However, in urban clinics, MCH and FP services are often provided by different personnel. (Khalifa & Abdelghani, 1995)

Prenatal/postnatal, family planning and infant care are so much interrelated. Yet, in most of the health service delivery outlets, these services are usually provided separately and sometimes not even available in the same location. In a small scale study conducted by Khalifa & Abdelghani (1995), to examine the feasibility of developing MCH/FP service delivery referral linkages women were asked to give their opinion about the best time for referral to the FP clinic. A large proportion said that the time when women are receptive to the family planning advise would be immediately after birth (53.3%). Contrary to expectation, a significant proportion said that the most suitable time for such advise is during pregnancy (20.6%). In addition, they found out that the least known services are the postnatal care (35 percent) and the well baby care (2 percent only). It seems that MCH clients do not change center often (91 percent of the clients have used only the current center). The role of MCH staff in influencing the attitudes of clients regarding their reproductive health is therefore, as there is an excellent opportunity for easy follow-up. (Khalifa & Abdelghani, 1995)

They concluded from this study that, great improvement is needed regarding the role of IE&C in the linkage of MCH and FP service. The message should contain both objectives together FP and MCH. Although the concept of the small family is an objective, but it needs to be addressed within a more broader context of reproductive health and maternal and child care. They also recommend that child care and vaccination services should be offered all days and not on specific days in the week. (Khalifa & Abdelghani, 1995)

The following table summarizes achievements in the field of maternal and infant through 1995. (UNICEF, 1996)

| Goals for the year 2000 | Achievements through 1995 |
|--|--|
| <p>Primary Health Care: To reduce infant and under-five mortality rates by at least one third of their 1990 levels, to 39 and 62 deaths per thousand respectively</p> | <p>The infant mortality rate- the number of children who die before the age of one year- has fallen from 108 deaths per thousand live births in 1980s, to 63 in 1995.</p> |
| <p>Immunization:</p> <ul style="list-style-type: none"> *To achieve at least 90.0% immunization coverage of all children and women throughout the country. * To eradicate Polio. * To eliminate neonatal tetanus. * To eliminate measles. | <ul style="list-style-type: none"> *About 80.0% of Egyptian children were vaccinated in 1995. Twelve years earlier this figure was only 30.0%. *The number of new cases fell from 2153 in 1982 to 71 in 1995. * By the end of 1995, 70.0% of women of child-bearing age had been vaccinated against neonatal tetanus. Twelve years ago this figure was less than 10.0%. |

| | |
|--|---|
| <p><i>Control Acute Respiratory Infections:</i></p> <ul style="list-style-type: none"> * To reduce the number of children who die from pneumonia by one third. * To ensure that all health facilities are able to provide accessible services to control ARI. | <p>Pneumonia is now the biggest killer of Egyptian children, having overtaken diarrhoeal disease. The project aims to reach 90.0% of doctors and 80.0% of nurses with training and 80.0% of mothers with information on prevention, treatment and referral.</p> |
| <p><i>Control of Diarrhoeal Diseases:</i></p> <ul style="list-style-type: none"> * To increase the use of oral Rehydration therapy (ORT), with continued feeding, to 90.0%. * To reduce the diarrhea-related infant and child mortality rates by one third. | <p>Egypt is a flagship country in the fight to reduce the number of infants and young children who die from diarrhoeal diseases. Nationwide Program was established since 1984 with a very successful media campaign. Now the use of ORT is 70.0%.</p> |
| <p><i>Safe Motherhood:</i></p> <ul style="list-style-type: none"> * To half the maternal Mortality rates. * To ensure that all pregnant women have access to health care services and family planning advice. | <p>Maternal Mortality rate has fallen in recent years, but it is still unacceptably high at 174 deaths per 100,000.</p> <p>The "healthy woman healthy child project currently being implemented by MOH, USAID aims to improve the overall health of women.</p> |
| <p><i>Breastfeeding:</i></p> <ul style="list-style-type: none"> * To empower all women to breastfeed exclusively for six months and to continue breastfeeding, with complementary feeding, until the child is two years old. | <p>UNICEF in Egypt promotes and supports breastfeeding in Egypt through Baby-friendly hospital Initiative targeting hospitals and MCH centers around the country to promote breastfeeding. Public awareness activities as well as health staff training are included under this initiative.</p> |

Family planning and Breast Feeding, the Religion Point of View:

According to "Child Care in Islam", the religion is considered as being one of the essential components motivating the procreative behavior of the vast majority of people to whom the family planning efforts are directed. This behavior has been remarkably influenced by strong opposition based on religious arguments, which arise either from lack of good understanding or from misinterpretation of the relevant texts in the Holy Quran and Prophetic hadiths, and which have gone out of their way to depict Islam as being opposed to family planning. According to those opposed views, family planning constitutes a challenge to the Will of God, the Almighty, and throws doubt on His Omnipotence to provide sustenance to whom He pleases without measure. (UNICEF, 1995)

It is therefore only natural that the principal role of the Information, Education and Communication Center, which is responsible for the efforts made towards this end, would be to counteract such opposition and to refute the arguments on which it is based. This can be executed through a careful and objective presentation of the relevant Quranic verses and Prophetic hadiths, in addition to a logical rebuttal of the arguments raised by the opponents to family planning. Help has been sought in this concern from leading scholars of Al-Azhar Al-Sharif, and the Ministry of Waqfs, who have been asked to explain the attitude of Islam towards the family planning issue, without any ambiguity, fact-twisting or flattery to the decision makers or to those who are in power. (Ministry of Information, ICPD, 1994)

Towards this end, the Center has adopted an objective approach, which relies solely on texts from the Quran and the Sunnah, in addition to the analogically deduced views of past and present prominent Imams and Jurists. A series of booklets and pamphlets presenting the point of view of Islam towards family planning have thus been published. They support the regulation of the family as long as it is based on the mutual consent of both husband and wife,, strives to protect the health of both mother and children and aims at bringing up children in a sound and healthy manner, which would make them good citizens, who will be of benefit to themselves, their families and their nation. (Ministry of Information, 1992).

The complete term for suckling a baby is two whole years. By adding the period of pregnancy, we shall have almost three-year interval between each child-birth. Such an interval will have direct positive bearing on the health and physical condition of the suckling babe. There is physical and psychological impact of such factors, as pregnancy, breastfeeding, rearing and taking care of the child, on the mother. Such impact necessitates that the mother should be given ample time to regain her health and capability. (Ministry of Information,1992)

Jaber Ibn Abdullah, God be pleased with him, said: "We used to practice Al-Azl" which is Coitus interruptus (natural family planning methods), at the time of the Prophet, He was informed about that practice and he did not disapprove of it" Had it been among the unlawful matters, the Holy Quran would have prohibited it. Thus, the provision relative to "Al-Azl" is clear from jurisprudentially point of view, and so is its purpose, which is to regulate progeny. However, it should be noted that any device designed to prevent man's sperm from reaching its natural destination in his wife's uterus is considered a kind of "Azl". should this take place through chemical means, which have temporary effect on the sperm of man or the reproductive organs of the woman or both of them, it would be like "Al-Azl" in its purpose, provided that it should not lead to sterilization and should be safe in its consequences (Ministry of Information,1992)

By becoming pregnant during the suckling period, the mother is actually committing an act of aggression on her child's right to be given a complete-term suckle. In so doing, she is not only transgressing her child's right to be given the complete suckle, but she is also destroying the right of the fetus she is carrying because however strong she may be, she cannot fulfill her duties towards both the child and the fetus. Hence, both the father and the mother are duty-bound to postpone pregnancy by using any legitimate device in order to enable the first child to enjoy his right to be given natural suckling. (Ministry of Information,1992)

Two religious leaders of Islam and Christianity worked jointly and wrote a very innovative and informative document is entitled "Toward a quite talk in the field of population Communication". This document highlights the similarities of both religions

view points about population and family planning issues. The Moslem religious leader writer used pieces of Quran and Hadith to confirm the acceptability and support of Islam to family planning in principal as well as practice. (الوكالة الدولية للتنمية الأمريكية، ١٩٩٢)

The Christian religious leader as well used verses of the bible in support of family planning and better understanding of these previously misinterpreted verses. He confirms that the Christian Church in Egypt approves the use of safety period as well as the modern contraceptive methods for family planning. In addition in encourages breast feeding up to three years. (الوكالة الدولية للتنمية الأمريكية، ١٩٩٢)

Azer & El-Adawi (1994) state that the initial steps towards the implementation of the Convention on the Rights of the Child have achieved far reaching success. Advocacy on the international scene has yielded wide acceptance among the different nations. This initiative was upheld and activated by the World Summit Declaration and the Summit Plan of Action for the decade goals. On the other hand, we still have challenges to meet. According to Fouad 1994, the main problems in the health delivery system are due to inadequate infrastructure resulting in :

- 1- Unequal distribution of health services.
- 2- Poor preventive and primary care services having only 13.0% and 21.0% of total health services budget, while 66.0% is allocated to curative services.
- 3- Reliance on donor agencies for priority preventive care such as immunization, control of diarrhoeal diseases and acute respiratory infections and family planning
- 4- Emergence of a private sector that provides curative services and is self-sustained that can be encourages to comply with National policies and provide cost-effective services.
- 5- Lack of coordination between service providers and policy makers in defining priorities and seeking possible solutions. (UNICEF, 1994)

The net result is reflected in a service with obvious defects in accessibility, affordability and sustainability. Although accessibility of PHC centers is possible on geographic basis, utilization is very low and therefore enforcing immediate and underlying causes of ill-health. (UNICEF, 1994)

Total Fertility and Contraceptive prevalence rates; Results of Field Surveys.

| | Field Survey | Total Fertility Rate | Contraceptive Prevalence Rate |
|---|--------------------------------|----------------------|-------------------------------|
| 1 | Egyptian Fertility Survey 1980 | 5.3 | 23.8 |
| 2 | Demo. & Health Survey 1988 | 4.4 | 37.8 |
| 3 | MCH Survey 1991 | 4.1 | 47.6 |
| 4 | Demo & Health Survey 1992 | 3.9 | 47.1 |
| 5 | Demo & Health Survey 1995 | 3.6 | 47.9 |

Relevant Vital Statistics from EDHS 1995

| Demographic/MCH Indicator | |
|---|---------|
| %of currently married women 15-49 who are currently using any family planning method. | 47.9 |
| %of currently married women 15-49 who know about any family planning method. | 99.8 |
| % of currently married women who know about a source for family planning services. | 92.3 |
| % of births with any medical antenatal care. | 39.1 |
| % of births whose mothers received tetanus toxoid vaccination. | 69.5 |
| Neonatal Mortality Rate | 30/1000 |
| Infant Mortality Rate. | 63/1000 |
| Average number of months a child is breastfed. | 18.9ms |
| % of infants with low birth weight 1990-94** | 8 |
| % of children (1990-96)who are: ** | |
| exclusively breastfed(0-3ms) | 68 |
| breastfed with complementary food(6-9ms) | 52 |
| Percentage of children breastfed 0-3 months | 98.3 |
| Percentage of children breastfed 1-11 months | 87 |
| | |

| | |
|--|------|
| Children totally immunized | 79.1 |
| %fully immunized 1992-95:** | |
| One Year Old Children: | |
| TB | 95 |
| DPT | 90 |
| Polio | 91 |
| Measles | 90 |
| Pregnant Women Tetanus | 64 |
| Population Annual Growth Rat* | 2.4 |
| Total Fertility Rate 1995** | 3.7 |
| % of births attended by trained health Personnel 1990-1996** | 46 |
| % of Prenatal care from a trained health providers | 39.1 |
| Maternal Morality Rate** | 170 |
| % of children who are chronically undernourished(stunted) | 29.8 |

** The state of the World's Children 1997. UNICEF

Chapter Three

Health Education for Maternal and Infant Health

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Health is a state of complete physical, mental and social well-being and not merely the absence of disease and infirmity (WHO 1946). (Kemmm & Close, 1995)

Ewles et al (1985), believe that national health services should be concerned with health education, but it is arguable that, in reality, it is a national *illness* service which does not give prevention and health education the priority they deserve.

They state that the aim of health education is to confirm people about the ways in which their behavior and lifestyle can affect their health, to ensure that the information is understood, to help them explore their values and attitudes, and (where appropriate) to help them to change their behavior. They add that, health education should raise awareness of the many socio-economic policies at national and local level which are conducive to good health, and to actively work towards a change in those policies. (Ewles et al, 1985)

On the other hand, every week, a quarter of a million children die in the developing world. Many millions more live on ill health and poor growth. Today, there is a world-wide scientific consensus on essential child health information:

- It is information which can help to save the lives of many millions of children in the developing world.
- It is information which can drastically reduce malnutrition and help to protect the healthy growth of the next generation.
- It is information which almost all parents can put into practice, in some sense, at very low cost.

(UNICEF, WHO & UNIESCO, 1990)

According to Kemmm & Close(1995) health education is considered an essential component of health promotion of the community. They simply defined health

education as raising awareness of health issues. The goals of health education are many, among which are:

- 1-Health consciousness.
- 2- Knowledge.
- 3- Self awareness.
- 4- Attitude change.
- 5- Decision- making.
- 6- Behavior change.
- 7- Social Change.

(Kemm & Close, 1995)

Health Knowledge is a Basic Human Right:

According to Ewles et al (1985), there is a vast body of knowledge about the factors which influence health for good or ill- knowledge which has the potential to affect the health of every human being. People have a basic human right to health knowledge in the same way as they have a right to vote and to have a protection of the law. Giving people health knowledge is a fundamental part of health education. In most cases, people want to have this health knowledge. This may not be true in certain circumstances (such as not wanting to know a diagnosis of terminal illness), but usually people feel that they are entitled to information which affects their health. They may not always ask for it, for a number of reasons such as anxiety and worry, a feeling of being intimidated by a health professional or a clinical setting, or fearing to appear stupid asking a silly question. however, when asked, people frequently express dissatisfaction with the amount of health information they have received, and this is particularly borne out by studies of hospital and clinics. (Ewles et al. 1985)

Health Education is the Basis for Health Promotion:

Without education for health knowledge and understanding, there can be no informed decisions and actions to promote health. Decisions about the prevention of ill-health, recovery from illness and coping with chronic ill-health and disability should be made on the basis of a sound understanding and knowledge about health. Knowledge is power, and without health knowledge, people are powerless to change their health themselves because they do not have the knowledge of alternatives and therefore can

not make informed health choices. Thus health education is a tool which enables people to make more control over their own health, and over the factors which affect their health. This includes their physical and social environment (such as their place of work, or living conditions) as well as their personal habits and life styles. Health education is not only the process by which knowledge is obtained, but it is also the process by which values and attitudes are explored, decisions are made and action is taken. Health education can help people to become health empowered, and thus to help themselves- and others- toward a healthier life. (Ewles et al, 1985)

Health Education Gets Results:

Ewles et al (1985), believe that it is obviously not true that health education has always achieved its goals- perhaps because the goals were unrealistic, the methods crude and under-developed and the health educators under-resource. No professional practice can claim 100% success. But it is learned that in theory, a great deal of our major contemporary health problems are preventable, and that there is considerable scope for prevention and health promotion. Health education is an essential and intrinsic part of prevention and health promotion. It is also clear that health education in practice is successful in many cases of health promotion, primary prevention, and when it is part of the treatment and care of sick patients. This results in an improved quality of life and - more pragmatically- in savings for the health service.

The type of health education we are concerned about here is primary health education which is directed at healthy people, and aims to prevent ill-health arising in the first place. it is concerned not merely with helping to prevent illness, but with positively improving the quality of health and thus the quality of life. (Ewles et al,1985)

Concerning the impact of health education on maternal/child health, Williams & Hammer (1995) believe that availability and accessibility of modern basic information on infant and child health to all parents and local communities is considered one of the major challenges during the last few years of the 20th century. It is a challenge that

could be met with some confidence as during the last two decades many developing countries have shifted a great deal of its energy to improve communication channels among its people.

On the other hand, Younis et al (1994) in their study highlighted the constraints that meet practitioners who wish to educate their clients especially on reproductive health issues. They believe that the long neglected, women's reproductive health is now beginning to receive attention as a result of the tragically high levels of maternal mortality in many parts of the developing world. In the Arab world a review of recent studies reveals maternal mortality ratios greater than 100 per 100,000 live births in many countries, as compared to six maternal deaths per 100,000 live births in developed countries. They also declare that time constraints and workload pressures necessarily limit the ideal patient-doctor interaction. Nevertheless, poor communication only reinforces the "culture of silence" and discourages further visits by women to health centers.

The same study of Younis et al has revealed that dissatisfaction with the information given during the "patient - provider" exchange is part of the reason why some women do not utilize available health services. (Younis et al,1994)

Different Approaches to Health Education:

According to Ewles et al (1985), there are five approaches to health education these are: medical, behavior change, educational, client-directed and social change approaches. This research uses a combined approach that acknowledges three of the above mentioned approaches, the medical, behavior change as well as the educational approach. The key features of these three approaches are discussed here.

The Medical Approach:

This approach involves promoting medical intervention to prevent or ameliorate ill-health, generally using a persuasive and authoritarian method- for example, persuading parents to bring their children for immunization and vaccination, women to use family planning clinics and middle-aged men to be screened for high blood pressure.

The Behavior Change Approach:

The aim of this approach is to change people's attitudes and behavior, so that they adopt a "healthy" life-style, and examples of it include the promotion of eating the "right" foods. The medical and behavioral change approaches are often loosely referred to as "prevention" or "the medical model", and they often overlap.

The Educational Approach:

The aim of this approach is to give knowledge and ensure understanding of health issues, based on the notion that this will enable well-informed decisions to be made and acted upon. (Ewles et al, 1985)

It is suggested, by Ewles et al (1985) that, health education should be a non-judgmental, two-way process between health professional and clients which builds on clients' existing knowledge and experience, moves them towards autonomy, empowers them to take responsibility for their own health and helps them to feel positive about themselves.

Kemm & Close (1995), stress that one of the important factors for health education to have an impact is, the ability of health educators to use approaches that will best influence the individual or group. For people of the low socioeconomic standards, the use of examples from within the individual's own experiences will be more effective than quoting statistical evidence on mortality and morbidity rates. They emphasize the fact that any successful health promotion activity has to start "where people are" What are the things that worry people? How prominent are health worries among their other concerns? How they feel about health related behaviors? The style of any health promotion activity must be guided by this sort of information. People will only be irritated by health education activities designed to inform them of the things they already know. (Kemm & Close, 1995)

In addition, Berjon & Barba (1992), believe that health education is the most adequate method to establish a more healthy relation between mother and child. Worthington,

et al, (1981) add that health professionals in the clinic setting can make a contribution toward improved reproductive status by relating nutritional health to a successful future life, including reproduction.

Health Promotion:

Ewles et al (1985) as well as Kemm & Close (1995) consider health education as one of the basis for health promotion.

Werner & Bower (1987), believe that health promotion includes all those activities which are intended to prevent disease or to promote positive health. Some health promotion activities that relate to this study are:

- 1-Making the environment safe.
- 2-Individual protection, e.g. by immunization against serious illness.
- 3-Health education: raising awareness of health issues.
- 4-Making healthy choices easy; e.g. increased availability of various contraceptive methods.
- 5-Protection against ill-health; control of advertising, banning certain products like milk formulas in general.
- 6-Detecting problems at a stage where they are reversible, e.g. infant growth monitoring.

UNICEF, WHO and UNESCO have cooperated to respond to health information lack by "FACTS FOR LIFE" health education booklet. This publication provides basic and practical information for infant health in plain language. It is a practical contribution to the evolving primary health care movement. (UNICEF, WHO & UNIESCO, 1990)

The publication covers main subjects of maternal and child care; these are; birth-spacing, safe motherhood, breastfeeding, weaning and child growth, immunization, diarrhoeal diseases, respiratory infections and others. It simply contains the basic messages that should be included in any message related to these health topics. (UNICEF, WHO & UNIESCO, 1990)

The Role of Health Professionals in Health Education:

According to Ewles et al (1985), all health professionals are health educators, although they may not separate this element from the rest of their work (such as treatment, therapy and patient care) and label it "health education". The authors realize the numerous difficulties health educators encounter in communicating with clients. Recognizing that communication barriers exist is the necessary first stage before work can begin on tackling these problems. These difficulties should be seen as challenges rather than insurmountable barriers .

They believe that there are several factors that affect the development of the health education role of health professionals. One of the difficulties this raises is, how to fit more into the already overcrowded curriculum of basic professional training courses. Partial solution to this problem might be to review priorities in basic training, and to emphasize post-basic education, such as Health Education Certificate Course (Ewles, et al, 1985)

They suggest that health education should be a non-judgmental, two-way process between health professional and clients which builds on clients' existing knowledge and experience, moves them towards autonomy, empowers them to take responsibility for their own health and helps them to feel positive about themselves. (Ewles et al, 1985)

In addition, messages must be clear and avoid ambiguity. Using simple words and short sentences will help clarity. Avoid Jargon and technical words. Ambiguity can lead to confusion and frustration for both sender and recipient. Brief, clear messages will be understood more easily and thus minimize misunderstanding. (Werner & Bower, 1987)

In the past, health education was viewed as being potentially a part of all health programs which require voluntary action by an individual, a family or a community. Now the focus has shifted to evaluating what can be done within the limited financial and manpower sources which most health education programs have available.

Afterwards, the total effort in the field of health education brought together many imaginative and resourceful persons. Simmons, (1976), believe that there is potential contribution that health education can make to the accessibility and acceptability of health services for consumers. Quality of care assessments bring out the need for greater attention to education as a way to prevent and cope with an illness. He confirms that, to work effectively with people, we must not only be able to see the world as they see it, but must understand the psychological and social functions performed in their practices and beliefs. These functions are not always evident to the people themselves. (Simmons, 1976)

In Iran, Montazeri (1995) carried out a descriptive study to investigate a the impact of a health education campaign on population control. He noticed that there are some significant associations between demographic variables (marital status, having child or not) and perception of the campaign. These associations may lead health educators and health promoters to communicate more effectively and efficiently in the context of family planning. He finally recommends that in countries with a large number of young people, health education campaigns on population control with respect to social values of each society and moral considerations are very beneficial. (Montazeri, 1995)

In summary, the health education role of health professionals could considerably improve if more emphasis is given to health education during basic training by tutors who themselves had better understanding of health education. Secondly, the support of health professionals' managers in the field is essential. Finally, a flexible, multi-disciplinary approach to work, with the emphasis on prevention and quality rather than treatment and quantity, would create a climate conducive to effective health education practice. (Tones & Tilford, 1994)

Health Education, Maternal and Infant Health:

Worthington et al (1981), believe that of all periods in the life cycle, pregnancy is one of the most critical and unique. The unique nature of pregnancy lies in the fact that no other time is the well-being of one individual so directly dependent on the well-being of another. During the gestational period, the mother and child have an intimate and

inseparable relationship. The physical and mental health of the mother before and during her pregnancy have profound effects on the status of her infant in utero and at birth. It is only through efforts directed at the mother herself that advantages can be provided to assure that her infant will be well born.

The vulnerability and dependence of the infant and the intergenerational significance of pregnancy in the life cycle have led all societies throughout history to recognize the special needs of pregnant women and to make provisions for their care. (Worthington et al, 1981)

Werner & Bower (1987), summarize the role of health professionals, as health educators, in the field of maternal and infant health under the following categories:

1- Prenatal care (for pregnant women): These women need health education with emphasis on nutrition. In addition, health professionals should provide tetanus vaccination and nutrition supplements when needed.

2- Birth: Cooperate with local midwives, referral to hospital for high risk deliveries and provision of care for the newborn.

3- Mothers and young children: Health worker should be able to undertake growth monitoring for children. They should also provide health education to mothers with a focus on nutrition, cleanliness, oral rehydration. They could also provide vaccinations for children.

4- Child spacing or family planning: They could provide counseling to mothers and give away contraceptive methods as well. (Werner & Bower, 1987)

Prenatal Care/Postnatal Care And The Role of Health Education:

Alexander & Korebort (1995), believe that prenatal care has long been endorsed as a means to identify mothers at risk of delivering a preterm or growth-retarded infant. Prenatal care also provides an array of available medical, nutritional, and educational

interventions intended to reduce the determinants and incidents of low birth weight and other adverse pregnancy conditions and outcomes. They argue that much of the controversy over the effectiveness of prenatal care in preventing low birth weight stems from difficulties in defining what constitutes prenatal care and adequate prenatal care use.

Serwint et al (1996) have conducted a randomized controlled trial of prenatal pediatric visits for urban, low income families. This study revealed that prenatal pediatric visits have potential impact on a variety of health care outcomes. Among urban, low-income mothers, they found beneficial effects on breastfeeding decisions, a decrease in emergency department visits, and an initial impact on the doctor-patient relationship.

In addition, Verma et al (1995), have examined the impact of an educational program during antenatal period. The results of their study indicated that, mothers gained statistically significant knowledge regarding the purpose of antenatal care and tetanus toxoid immunization. The awareness regarding breastfeeding and its advantages also increased significantly in the study group. It is recommended that the antenatal period should be optimally utilized to impart health education on the various aspects of maternal and child health.

The main health education topics that concern maternal and infant health are the following:

- I-Family planning information, education and communication.
- II-Nutrition education for women during the prenatal and postnatal periods.
- III-Infant nutrition, breastfeeding and weaning practices.
- IV-Immunization Coverage.

I- Family Planning Information, education and Communication:

Rosefield & Everett (1996), examined the factors related to planned and unplanned pregnancies. They concluded that, all women of childbearing age who are sexually active can benefit from planning pregnancies. Counseling that accesses a woman's expectations regarding birth control, followed by a careful explanation of the side

effects of a contraception choice, may reduce the rate of unplanned pregnancy. Counseling the male partner or sexually active men in contraceptive options may be equally important. They believe that understanding factors that result in satisfaction with contraception may reduce unplanned pregnancies. (Rosefield & Everett, 1996)

Sherris et al (1985), found out that, family planning programs have clearly lowered fertility in a number of developing countries. Fertility has declined most in countries where strong family planning programs operate with government support in favorable social and economic setting.

They conclude that two decades of experience and research make clear that family planning programs can lower fertility. Indeed, they are the most direct and effective single measure that can be taken to lower fertility. Now research can help identify the most important elements within family planning programs. Research can also suggest how much other development programs, such as women's education, may influence fertility. Ultimately, these efforts all combine to support attainment of the best basic goal of development-- a better life for all. (Sherris et al, 1985)

According to Robey et al (1994), there are several key lessons that make a Family Planning Program work. Many of these key lessons are related to health education and promotion; these are:

1- Family planning demand:

Most couples want to plan their families, when they have the opportunity to do so. Women everywhere want to avoid unintended pregnancies. Health education can increase awareness and accordingly, increase demand for family planning

2- Choice of contraceptive methods:

Family planning programs work best when they provide people with full information and a choice of services in a climate of respect. Government goals and projections may be an important part of national development planning. But setting targets for contraceptive

"acceptors" is not the road of family planning success rather, if people are given the opportunity, they choose family planning when it meets their needs. (Robey et al, 1994)

Family planning programs are more successful when they provide a choice of many contraceptive methods, not just one or two. Making only one or two contraceptive methods widely available is better than failing to provide family planning at all. But only a range of effective methods can meet peoples diverse needs and serve individuals over their reproductive life times. Successful family planning programs provide as many different contraceptive method as possible. "As any marketing expert will tell us, the more choices, the more likely the consumer is to select one of the available options". No single method is appropriate for every body. The more methods offered, the more likely that each client will find a satisfactory one and that clients will be able to shift to new methods as their circumstances change. (Robey et al, 1994)

3- Client- centered quality:

From clients' point of view, not only the technical quality of services is important but so are other aspects, including privacy and confidentiality, competent counseling, friendly personnel, and the opportunity to make an informed choice about contraception. (Robey et al, 1994)

To make an informed choice, clients need accurate, clear, unbiased, and useful information and advice about reproduction, family planning, and correct use of contraceptive methods. Many people discontinue using contraception because they lack accurate information, while others never adopt contraception at all because of lack of information about contraceptives. Service providers should inform clients about both the advantages and the disadvantages of contraceptive methods.

4- Communication:

Information, Education, and Communication (IEC) activities bring people and family planning programs together. Communication activities give people the information they need to make informed choices about using and continuing to use contraception and about other aspects of reproductive health. People obtain information about family

planning both from the mass media, and through the interpersonal communication. Radio and television reach millions of people even in remote area and of powerful influence on opinions, attitudes, and behavior. People also hear about family planning in schools, social programs and communities. Even community theater has brought family planning topics to rural people who lack access to radio and television. Interpersonal communication, whether among family members and friend or between service providers and clients, plays an important role in people's decisions about family planning, helping people decide whether, when, which method and how to use family planning. (Robey et al, 1994)

In Egypt and according to Robey et al (1994), the Government IEC program has helped achieve virtually universal awareness of family planning. Nearly all Egyptian households have television sets, and 90.0% of Egyptians watch T.V. regularly. Communication activities, relying largely on television combined with ready access to services, have helped contraceptive prevalence to rise by 17 percentage points between 1984 and 1992, from 30.0 % to 47.0 %.

5- Well trained providers:

According to Robey et al (1994), better training is required to improve the quality of care. They suggest that:

1. Family planning counseling should become part of medical and nursing school curricula.
2. Interpersonal communication skills should be incorporated into on-the-job training of all health workers and volunteers.
3. Staff members with formal training in counseling should be given responsibility for providing on-the-job orientation to other staff members (Robey et al, 1994)

In the field of family planning, raising the level of community knowledge is a must before we can expect any changes in their attitudes in the form of more family planning practice. (Robey et al, 1994)

According to Williamson et al (1990), family planning users benefit from clear instructions (orally and in written form that they can understand) about how to use the method correctly and what to do if they experience problems. Counseling potential users can increase the use of new methods. They stress the fact that as more information becomes available on use effectiveness, it comes to our knowledge that some information given by family planning programs is incorrect.

For example, and according to, Thapa et al (1988) family planning providers sometimes tell clients that oral contraceptives (OCs) are more effective than IUDs which is true only in tightly-controlled clinical trials. In general practice, IUDs are more effective than Ocs and have longer continuation. We have also learned that combination of methods can be effective and that traditional methods, including breastfeeding, can be as effective as modern methods.

When clients are given information and a choice of methods, they may get a more appropriate method and continue it longer (WHO, 1980). Increasing the number of methods available also tends to increase use. (Jain, 1988)

WHO acknowledges that clients may be more satisfied if they are offered a choice of methods and information about advantages and disadvantages of different methods. (WHO, 1980).

Willamson et al (1990) emphasize that, if users are given clear information on how the method works, how to use the method and what to expect, they will be more satisfied users. Family planning programs should popularize available methods and encourage correct use and continuation. Providers seldom help women integrate breastfeeding and family planning and frequently give combination Ocs to breastfeeding women.

According to Sherris et al (1985), there is a consensus that an effective family planning program has appropriate management and decentralized administration and makes contraceptives widely available. The role of information, education and communication (IEC) is crucial and its integration with, family planning services, maternal and child

health, postpartum service delivery and other services, makes a difference. (Sherris, et al, 1985)

II- Nutrition education for women during the prenatal and postnatal periods:

Ewles et al (1985), believe that a well-developed nutrition education has components devoted to communicating facts, influencing attitudes, and changing behavior.

According to Worthington et al (1981) increasing evidence indicate that positive nutritional support of pregnancy, rather than past restrictions born of limited knowledge and false assumptions, builds for a positive outcome of pregnancy and increased health and vigor of mothers and infants alike. There is definitely increased nutritional demands during pregnancy. These demands focus on nutrients needs basic to human growth and development, increased protein, vitamins, and minerals to sustain the necessary building process, as well as sufficient energy input from calories to do the work. This basic concept provides a logic framework for nutrition education and guidance in prenatal care.

Nutrition education during pregnancy is an opportunity that should not be missed. Worthington, R. et al, believe that perhaps at no other time in the human life cycle is a person open to nutrition education, more motivated by a sense of responsibility for another human life, than during the period of pregnancy. A positive personalized approach can build on the feeling of responsibility and anticipation of parenthood to develop motivation for learning. A wide variety of techniques can be employed in the effort to improve the nutritional environment of the population, and ultimately its readiness for the reproductive experience. No single mode of presentation is adequate for all situations encountered, and consequently, nutritionists and nutrition educators need to be skilled communicators, able to use techniques appropriate to meet the demands of any audience. (Worthington et al, 1981)

They add that, health educators can and should be effective advocates for change in the commercial media where saturation techniques are most frequently used by promoters

of unhealthy food habits. In a positive sense, nutrition educators should recognize the potential of utilizing mass media in a comprehensive manner to reach millions of persons in all stages of the reproductive cycle. (Worthington et al, 1981)

Furthermore, Fisher et al (1993), believe that in health education, educational objectives are rarely concerned exclusively with knowing, feeling or doing- a mixture is usually required. For example, in the exercise when advising a mother about feeding her toddler, the health educator probably has several objectives in mind:

- The objective of ensuring that the mother knows which foods are nourishing for her child and which are given in restricted amounts;
- The objective of changing the mother's erroneous belief that sugar is essential.

III- Infant Nutrition; Breastfeeding and Weaning Practices:

The advantages of breast-feeding should be clearly presented to the population as a whole, ideally before and/or during adolescence when attitudes begin to solidify. (Worthington, 1981)

They believe that the decision to breast-feed is a significant one and is usually made relatively early in the pregnancy. Although the health professional must support the parents' ultimate decision regarding feeding method, the professional too often fails to take a stand in support of lactation early enough in the prenatal period to influence the decision making process.

When the decision has been made to breast-feed, an individual or small group instruction session is indicated. These may be held early in the second trimester. The nurse should discuss the advantages of breast-feeding. She should listen and respond to any concerns that the mother may have. A brief discussion of the dietary requirements for lactation should be included in the prenatal visits. During the prenatal session, the nurse can also teach exercises for nipple conditioning that will help to prevent nipples soreness once lactation begins. They add that adequate rest, diet, and fluids should be considered when the milk supply needs to be increased. Priority for attention should

therefore be given to development of high quality nutrition education materials and programs for children as well as adults. (Worthington et al, 1981)

According to Bax et al (1990), many mothers lack confidence in their own ability to breastfeed. They need encouragement and practical support of fathers, health workers, relatives and friends, women groups, the mass media, trade unions and employers. Mothers who are not confident that they have enough breast milk often give their babies other foods or drinks in the first few months of life. This means that, the baby sucks at the breast less often, so less breast milk is produced. To stop this happening, mothers need to be reassured that, they can feed their young babies properly with breast milk alone.

In addition Lazzaro et al (1995) recommend that, to increase the prevalence of breastfeeding, there should be prenatal education, participation in support groups, and promotion of breastfeeding through the media.

Kasemsarn et al (1995) examined the sustainability of "Baby Friendly Hospital Initiative". They concluded that, for the BFHI to continue, rooming-in is essential in the promotion of breastfeeding. Breastfeeding should not be considered a maternal instinct but a new behavior that needs to be changed to point that mothers adopt breastfeeding practices for 4 months after delivery.

Jimenez et al (1995) examined the influence of breastfeeding on nutritional development of infants with persistent diarrhea. This study has concluded that, it should be reinforced that breastfeeding practice promotion as an effective way for the nutritional recovery of breastfeeding infants with persistent diarrhea.

In addition, Orlando (1995) emphasized the importance of breast milk in protecting the newborn from infection. He confirms that, infant morbidity and mortality have been directly affected by a decline in breastfeeding.

Barros et al (1995) have studied the impact of lactation centers on breastfeeding patterns. They found out that children recruited in the Peri-natal period who subsequently attended the lactation centers were exclusively breastfed significantly more at 4 months and at 6 months of age than non-attenders. Lactation centers are effective in promoting breastfeeding, and their use in areas with short breastfeeding duration should be considered.

In Saudi Arabia, according to Al-Shehri et al (1995), government health facilities and mass media constituted the main source of essential information about breastfeeding.

Lothian (1995) adds a new perspective to successful breastfeeding. He believes that, the baby has a positive role in successful breastfeeding. He adds that, the baby has an influence on the process and duration of breastfeeding. In his research, he examined knowledge, skill, and support of family and friends who influenced breastfeeding duration, but only in the presence of baby's satisfaction. The characteristics associated with baby satisfaction were competent sucking, "easiness", and stamina. Based on his findings, to be successful, "it takes two breastfeed". Breastfeeding education should include much more information on the contribution of the baby to the process of breastfeeding. Health care providers should be skilled in both infant breastfeeding assessment and intervention to facilitate successful breastfeeding. (Lothian, 1995)

Pugin et al (1996) have conducted prenatal group education sessions emphasizing the skills necessary to initiate and maintain breastfeeding past the neonatal period. The effect of the educational program was greater among primiparous women. They accordingly believe that, prenatal group education with hands-on skills reinforcement is a significant and additive component of breastfeeding support, especially among those who have no previous breastfeeding experience.

Brent et al (1995) have evaluated the efficiency of an intervention program to increase breast-feeding in a low-income, inner city population. The intervention program consisted of individual prenatal lactation consultation, daily rounds by the lactation consultant on the postpartum unit, and out-patient follow-up at 48 hours after discharge,

at the time that the infant was 1 week of age, and at all future health supervision visits for infants up to 1 year of age. This lactation program increased the incidence and duration of breast-feeding in our low-income cohort. The authors suggest that, similar efforts applied to analogous population may increase the incidence and duration of breastfeeding in low income populations.

On the other hand, Haider et al (1996) designed a program for training of lactation counselors to advise mothers of partially breast-fed infants. The program persuaded mothers to start exclusive breast-feeding during their hospital stay. After program implementation, 60.0% of mothers in the intervention group were breastfeeding exclusively at discharge compared to only 6.0% in the control group. Accordingly, the authors believe that individual counseling has a positive impact on mothers to start exclusive breastfeeding during hospitalization and continue the practice at home. They finally recommend that maternal and child health facilities should include lactation counseling as an integral part of their program to improve infant feeding practices. (Haider et al, 1996)

Monte et al (1997) describe in their article a methodology to design feasible intervention to improve weaning food hygiene practices for families living in extreme poverty. The methodology relied mainly on outreach home visits. It was developed in response to the high priority given to reducing weaning food contamination for diarrhoeal disease control, and the lack of any existing methodology for defining appropriate educational interventions in resource-poor regions.

Ewles et al (1985) recognized that educational objectives, of health education, are rarely concerned exclusively with knowing, feeling or doing- a mixture is usually required. For example, in the exercise when advising a mother about feeding her toddler, the health educator probably has several objectives in mind:

1. The objective of ensuring that the mother knows which foods are nourishing for her child and which are given in restricted amounts;

2. The objective of changing the mother's erroneous belief that sugar is essential to give her child energy and relieving her anxiety that her healthy child's "food fads" may cause serious ill-health;
3. The objective that the mother learns what to do at meal times when her child has tantrum over eating his food.
4. Thus the health educator is concerned with what the mother knows, feels, and does about feeding her toddler.

In summary, Bax et al (1990) proved that for many mothers feeding seems to dominate the first few months of life. Practical and realistic advice from health visitors, doctors and other mothers can provide the necessary support for mothers over this difficult period so that they can enjoy their babies.

IV- Immunization Coverage:

Rahman et al (1995) have conducted research in Bangladesh to identify the factors associated with delayed or non-immunization of their children. The results of the study indicated that even in the presence of maternal illiteracy, educating mothers about the vaccines and vaccine preventable diseases may be highly effective in increasing the immunization coverage. (Rahman et al,1995)

Role of Interpersonal Communication in Maternal and Infant Health:

Simmons (1976) state that in low-income communities much information is transmitted by word of mouth-the grapevine. However, as the message goes through, it becomes distorted, so reliance only on this method may bring forth half-truths. In addition, providers might lack the proper knowledge needed by their clients. According to a recent IPPF study, providers seldom help women integrate breastfeeding and family planning and frequently give combination Ocs (Oral Contraceptives) to breastfeeding women.

On the contrary, Williamson et al (1990), very much believe in the word of mouth and state that users benefit from clear instructions (orally and in written form that they can understand) about how to use the method correctly and what to do if they experience

problems. If users are given clear information on how the method works, how to use the method and what to expect, they will be more satisfied users. PATH has extensive experience in helping countries develop these kinds of educational materials. In some settings, providing information for spouses may also be useful.

Providers may know little about natural methods of family planning, especially the newer methods (FHI research in the Philippine, Sri Lanka, Mauritius and Peru: Snowden, 1988). In order to improve a program it may be very useful to assess provider knowledge and attitudes toward the methods they are providing. (Family Health International, 1988)

Clients may be more satisfied if they are offered a choice of methods and information about advantages and disadvantages of different methods. (WHO 1980)

Werner & Bower (1987), believe that methods suitable for individuals or small groups include one-to one counseling, discussion, questions and answers, problem-solving, providing materials for independent learning (self-instruction), demonstration, role playing and story-telling. All encourage interpersonal interaction and actively involve individuals in learning.

The Role of Mass Media and I.E.C. in Maternal and Infant Health:

Robey et al (1993) conducted a very large study in 93 developing countries to analyze the factors associated with fertility decline, they found that, among the most important program factors was, the extent that mass media are used for IEC. They believe that IEC campaigns, if they are backed up by good service delivery and good management, among other factors, contribute to program success. IEC activities that use mass media to convey appropriate messages can be especially useful, largely because they reach so many people. They tend to have legitimizing effect if people have doubts about family planning. Also, messages for the mass media are more likely to be developed by professionals who have technical and communications expertise to prepare and present effective messages.

Furthermore, Tones & Tilford (1994), believe that most communication attempts are concerned to do more than ensure that the message has been correctly interpreted and understood. In reality, their purpose is to generate some learned outcome: the acquisition of new information or understanding; a change in belief and attitude; the learning of a new skill and even the adoption of a new practice or change in lifestyle.

It is usually acknowledged by media workers that there is a 'hierarchy of effects': it is relatively easy to 'agenda set' and communicate simple information; it is increasingly difficult to change attitudes, teach complex skills and persuade people to adopt new behaviors, especially where these involve exertion, discomfort or the abounding of pleasure. (Tones & Tilford, 1994)

According to Tones & Tilford (1994), mass media vary considerably in their potential and capabilities. They differ in form and format: leaflets and posters are substantially different from the electronic media of television and radio. They differ in their potential for reaching audiences and in the nature of the audience they reach: local radio listeners have different characteristics from readers of quality national press. They differ in their credibility and trustworthiness.

They add that, print media are usually the most successful in communicating information, while audio, visual, combined audio-visual, and hands-on experience communication techniques effectively influence attitudes and model healthful behavior. (Tones & Tilford, 1994)

Williams & Hammer (1995), confirms that communication channels especially television and radio have great influence on people. They can be used to disseminate health programs to create community awareness of various health issues. In addition, media can disseminate information on both knowledge and practice of healthy behavior. Furthermore, media can promote children's rights to grow and survive and help in establishment of child survival projects at the top of the political and national agenda.

They add that although mass media has a great influence on people, interpersonal communication is vital for changing individual beliefs and practices.

Tones & Tilford (1994), emphasize that media influence process is a complex one. One simple fact can, however, be stated : in normal circumstances, mass media will not easily change people's behavior unless individual motivation and normative influences are favorable. It is almost a truism to say that the appropriate use of an audiovisual aid will enhance any given teaching method.

In addition, they believe that although the use of leaflets as mass media without the interpersonal support is problematic, it could add to the effectiveness of the verbal advice provided by the doctor. Mass media campaigns and other kinds of individual-oriented interventions are safe because they virtually never challenge any powerful vested interests. Such interventions implicitly state that the problem is in the person and not in the system, Yet, the person and the system are inseparable. (Tones & Tilford, 1994)

Program Planning and Health Education:

Kleinman & Senanayake (1984), believe that any program aimed to improve the health of mothers and infants should include :

- 1-Education of health workers about the value of breastfeeding and ways of promoting it.
- 2-The dissemination of knowledge about the importance of breastfeeding to women in the community, both from the point of view of the baby, and of the contraceptive protection breastfeeding can have.
- 3- Antenatal advice is of the utmost importance in preparing mothers to accept the idea of breastfeeding in the puerperium and beyond; this will include the techniques of breastfeeding, dealing with problems such as inverted nipples, engorged breast, and sore or cracked nipples. The frequency of sucking, the advantages of 'on demand' feeding, and the optimum nutrition needed by the mother during lactation can all be discussed. (Kleinman & Senanayake, 1984)

According to Ewles et al (1985), there are 9 stages in planning for health education, the stages are: identifying consumers and their characteristics, identifying consumer needs, deciding the goals of health education, formulating specific objectives, identifying resources, planning the content and method in detail, planning evaluation methods, carrying out health education, and evaluating the process and the outcome.

Simmons (1976), believe that, program planning and implementation must include all persons who are responsible for carrying out any part of the program: the consumer who will benefit, other persons who influence the individual's behavior, the health agency's governing body, administrators, staff at all levels, and persons associated with other agencies and institutions. The most effective programs included active involvement of the target population in a variety of roles; developing working relationships with community leaders; and identifying needs, resources and community response patterns.

There's no program that shouldn't be evaluated. Time, money, money, and people are precious; whenever money, time or people are spent, the outcome should be evaluated for the benefit of others and for future implementation of similar interventions.
(Simmons, 1976)

Gryboski (1996), adds that, the mother is not the only person who give time and care to the baby specially in developing countries where extended families are still the norm family structure. In Indonesia, he have examined maternal and non-maternal time-allocation to infant care, and care during infant illness in rural Java, Indonesia. His study revealed that grandmothers, sisters, and fathers of the infants were the most important in terms of time; allocated to infant care. The study findings suggest that health education messages related to infant care and feeding could be usefully targeted to other persons in addition to mothers.

Chapter Four

Training of Health Personnel for Mother Coaching

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Training of Health Personnel for Mother Coaching

Training of health personnel on proper client counseling would have a great impact on:

- 1- Breastfeeding, lactation management and weaning practices.
- 2- Family planning and management of client concerns and side effects.

In one of the recent Population Council analysis, conducted by Zurayk (1994), she examined the extend of utilization of health services (e.g. prenatal care and delivery services). The study proved lack of utilization of such services even when some services are available. In terms of the health delivery system, studies are increasingly pointing to the importance for women of the quality of services available.

According to Bruce (1989), quality of service includes many elements, beyond the technical competence of the provider, prominent among them is the nature of the encountered communication between the woman and the provider in terms of the degree of interaction and information given.

The Role of Health Professionals in Health Education:

According to Ewles et al (1985) all health professionals are health educators, although they may not separate this element from the rest of their work (such as treatment, therapy and patient care) and label it "health education".

They believe that the health education role of health professionals could be considerable improved if more emphasis were given to health education during basic training by tutors who themselves had better understanding of health education. Secondly, the support of health professionals' managers in the field is essential. Finally, a flexible, multi-disciplinary approach to work with their clients would improve their credibility with clients.

(Ewles et al, 1985)

Experience has proven that emphasis on prevention and quality rather than treatment and quantity, would create a climate conducive to effective health education practice.

Ewles et al (1985) suggest that, health education should be a non-judgmental, two-way process between health professional and clients which builds on clients' existing knowledge and experience, moves them towards autonomy, empowers them to take responsibility for their own health and helps them to feel positive about themselves.

On the other hand for health education of clients to be effective, it should be integrated with other clinical services. Unfortunately, according to Zurayk (1994), there is tendency in developing countries in general to organize services in a vertical, parallel fashion rather than taking a comprehensive view of the provision of services, particularly to vulnerable groups such as women and children.

This vertical organization of services makes an integrated health education program for maternal and infant care a real challenge which is not impossible, but rather difficult to manage. According to Williamson et al (1990), providers seldom help women integrate breast feeding and family planning and frequently give combination oral contraceptives to breast feeding women.

Breastfeeding Education and Lactation Management:

With the increased interest in lactation, it is important that physicians, dietitians and nurses provide counseling to parents regarding the benefits and difficulties of breast feeding. Appropriate education, assessment of the infant's vigor and maternal milk supply prior to release, are all necessary to help a mother feed successfully, to detect a developing problem and to avert a potentially serious condition in the baby. (Farzaneh, 1994)

Lawrence's study in 1980 has proved that the enthusiastic physician can influence the number of breastfeeding mothers in his practice. If the physician provides knowledgeable medical and psychological support. The success rate of the patients who intended to breastfeed will increase.

She adds that, the key to the management of the nursing couple is establishing a sense of confidence in the mother and supporting her with simple answers to questions when they arise. Management is best discussed in terms of three stages:

- 1-The prenatal period: It is most effective to prepare for breast-feeding well in advance of delivery. This preparation is mainly for the breasts and nipples to avoid tenderness and cracked nipple and treat inverted or flat nipple well before breastfeeding starts.
- 2-The immediate postpartum, or hospital, management: Key points in management should include; helping the mother find a comfortable position, help the infant to the breast, help the mother reposition the infant on the second breast, since moving may be hard at first and if the infant falls asleep after the first breast, wait a little, wake him, and then move to the second side, and ;
- 3-The post hospital period where continuous reassurance of the mother and growth monitoring of the baby are key determinants for the success of breast-feeding (Lawrence, 1980)

In support of Lawrence's belief, Bax et al (1990), as well, state that for many mothers feeding seems to dominate the first few months of life. Practical and realistic advice from health visitors, doctors and other mothers can provide the necessary support for mothers over this difficult period so that they can enjoy their babies.

They add that, antenatal clinics could provide an ideal opportunity to discuss feeding. The commonest reason given for stopping breast-feeding was insufficient milk. Other reasons included painful breasts, baby would not suck, breast-feeding took too long or mother did not like breast-feeding. Clearly, some mothers are not sufficiently motivated to persevere despite some discomfort and inconvenience, but, in the majority an improved success rate could be achieved by offering a high level of informational support. The attitude and support of the father can greatly influence both the mother's desire to breast-feed and the likelihood of a successful outcome. Ideally, antenatal care discussion should involve both parents, not only concerning feeding but also in other aspects of childbirth and child development. (Bax et al, 1990)

According to Losch et al (1995) physicians may be very knowledgeable about the nutritional and immune properties of human milk and yet not be supportive of the act of breast-feeding. This lack of support may be manifested by the lack of verbal support for women who intend to, or are in the process of, breast-feeding, the provision of infant formula before or at the time of birth of the baby, or encouragement to terminate breast-feeding should the mother encounter any difficulties with lactation. To increase physician awareness of the process of breast-feeding and the properties of human milk, information about benefits should be integrated in both the basic science and the clinical curricula in medical schools. Primary care training programs, including obstetrics, should actively involve trainees in the management of breast-feeding women so that trainees become aware of the spectrum of circumstances that confront women seeking to establish and maintain successful breast-feeding. This type of involvement would provide a contextual base for physicians' understanding the attitudes and behaviors supportive of breast-feeding. Attitude and behavior of women, although more complex than demographic factors, provide a powerful tool for meeting the "Health for All People" 2000 goal for the initiation and duration of breast-feeding. Emphasis on the known health advantages of human milk or the discovery of additional health benefits to breast-feeding should continue to be discussed because they may tip the balance in favor of breast-feeding for some women. (Losch et al, 1995)

They believe that, it is essential that physicians and other health care professionals seeking to increase the rate of initiation and duration of breastfeeding build on the body of information concerning factors that influence a woman's attitudes about breast-feeding. The relation between positive attitudes concerning breast feeding and its initiation is important to the development of programs targeting women before they become pregnant, and to the provision of active support for breast-feeding throughout the pregnancy, perinatal, and postnatal period. (Losch et al, 1995)

In addition, Leuzzi et al (1996) emphasize that, all health care providers that interact with women of childbearing age should understand the potential benefits of preconception counseling and to approach the evaluation in a thorough manner during

routine health maintenance visits. With the increased number of patients enrolled in managed care programs, health maintenance visits provide the unique opportunity to educate women contemplating pregnancy regarding the potential influences of their lifestyle and health status on the future pregnancy. It is becoming increasingly apparent that interventions made during at the preconception period are just as crucial as the subsequent 9 months of prenatal care to achieve an optimal maternal-fetal outcome.

Bax et al (1990), outline of management of breast-feeding by the doctor, midwife and health visitor, as follows:

Antenatally:

- 1-Discuss expectant mother's feeding preferences pointing out pros and cons of breast and bottle.
- 2-Provide basic information on physiology of lactation including the let-down reflex, and the mechanism of milk stimulation.
- 3-Check nipples and advise on how to draw out retracted nipples between finger and thumb.
- 4-Suggest that mother asks to put the baby to the breast as soon as possible after delivery, preferably in the delivery room. The infant is likely to be more alert and eager to suck immediately after birth than in the next couple of days.
- 5-Warn mother that her infant is likely to appear hungry for the first few days and may need feeding up to a dozen times daily initially.
- 6-Discourage using complementary milk feeds both in hospital and after discharge since the infant will spend less time sucking and milk supply will dwindle.
- 7- Point out that many mothers need guidance on breast-feeding technical advise.
- 8- Advise mothers to ask for help from nursing staff as soon as difficulties happen.

After Discharge:

- 1-Visit the mother as soon as possible after discharge. Many mothers give up breast-feeding at this time.
- 2-Observe feeding and check that nipple is correctly inserted into baby's mouth and the breast is not obstructing the baby's nostrils.

- 3-Advise starting each feed on alternate breasts. Express milk only if mother feels discomfort after a feed, over-expression encourages over-production of milk and further engorgement.
- 4-Some babies may appear satisfied after only five minutes' feeding. Reassure that this is quite normal since babies obtain 90.0% of feed in the first five minutes. After a few weeks 10-15 minutes each side is average, which usually provides sufficient nourishment and sucking stimulation.
- 5-Discuss a sensible demand feeding schedule. Explain that babies may sometimes need feeding every two to three hours and at others every four to five hours. Demand feeding is intended to give both mother and baby flexibility. Feeds can be brought forward or delayed for an hour or so to fit in with the mother's schedule.
- 6-Explain that if baby appear hungry increasing frequency of feeds up to two-hourly stimulates milk supply.
- 7-Introduce mother to other mothers who are successfully breast-feeding.

In response to this demand for quality breastfeeding counseling and the rising demand for more comprehensive teaching materials on the art and science of breast feeding support, the American College of Nurse-Midwives developed a "Lactation Education" program worldwide for health professionals. (Bax et al, 1990)

To increase the prevalence of breast feeding, Lazzaro et al (1995) recommended prenatal education, participation in support groups, and promotion of breastfeeding through the media.

Kistin et al (1994) trained counselors to provide information about lactation management and other health care issues. Women in the counselor group had significantly greater breast feeding initiation and duration than women in a non-counselor group. This study suggest that peer counselors, well-trained, and with on-going supervision, can have a positive effect on breastfeeding practice among low-income urban women who intend to breastfeed.

Another study conducted by Barnett et al (1995) had found out that nutritionists and pediatricians were most likely to have positive beliefs about breastfeeding, whereas hospital nurses were most likely to have negative beliefs. Personal breastfeeding experience contributed to positive beliefs. This study indicated that, there is a need for comprehensive training in lactation management, and improvements in hospital and public health clinic environments.

Freed et al (1995) have assessed breastfeeding education, knowledge, attitude, and practices among resident and practicing obstetrician-gynecologists. Practitioners rated themselves as more effective in meeting the needs of breast-feeding patients than were residents. The study found out that, prior personal breast-feeding experience was a significant influence on perceived effectiveness. Obstetrician-gynecologists have a role in breastfeeding promotion, but there were significant deficits in knowledge of breast feeding benefits and clinical management. Accordingly, the study concluded that residency training and continuing education programs should create opportunities to practice breast-feeding promotion skills and emphasis management of common lactation problems.

Hauk and Dimmock (1994) have examined the effect of a breastfeeding information booklet on breastfeeding behavior. Study findings have implications for clinical practice in highlighting the importance of breastfeeding information in increasing mothers' confidence, providing suggestions for breastfeeding practice, and helping mothers not to feel alone in their concerns.

Because of brevity of the postpartum hospital stay, mothers and their newborns are discharged home before breastfeeding is well established. There is a need for more consistent, expert, and timely assistance with breastfeeding in the hospital and better continuity of care during the first few weeks at home. Leff et al (1995) have suggested production of effective patient and family education materials and that hospitals can expand their traditional boundaries of care and quality improvement into community health issues.

Prasad and Costello (1995) conducted another study to evaluate the impact and sustainability of a baby friendly training intervention for staff at a district hospital on initiation of breast feeding and use of prelacteal feeds by mothers. The training course was for ten days and included doctors, nurses, and midwives. The course covered benefits and feasibility of early breastfeeding and dangers of prelacteal feeds together with instruction on explaining this information to mothers. This study have proved that training doctors and midwives greatly improved the feeding practices of mothers. However, the impact of the training fell off quickly and refresher training is needed to sustain the improvement.

Corbett-Dick & Bezek (1997) set forth breastfeeding promotion for the employed mother. They believe that, maternal employment has been associated with decreased duration of breastfeeding. Through their study, they recommend that clinicians in pediatrics are well positioned to promote the specific benefits to mother and baby that breastfeeding provides through advocacy, education, and support with regard to breastfeeding and employment. Anticipatory guidance specifics such as feeding patterns, guidelines for pumping and storing breast milk, and information regarding available resources are important clinical knowledge. Pediatric health care providers must provide this knowledge to increase breastfeeding rates and duration among women who return to the work force after birth of their baby.

Williams & Hammer (1995) believe that to be truly supportive of breastfeeding, pediatricians should receive didactic and clinical training in breastfeeding management.

In addition, Tietz et al (1995) believe that, public health services should at least provide information on breastfeeding counseling in the community and on training opportunities for counselors.

Leef et al (1995) also emphasize the need for more consistent, expert, and timely assistance with breastfeeding in the hospital and better continuity of care during the first few weeks at home.

Family Planning Counseling:

”Motivated, well-trained providers deliver family planning services better.”(Robey et al, 1994).

Clients may be more satisfied if they are offered a choice of methods and information about advantages and disadvantages of different methods. If clients are treated with respect, people will be more willing to go to family planning clinics. (WHO 1980)

Ewles (1985) documented that users benefit from clear instructions (orally and in written form that they can understand) about how to use the method correctly and what to do if they experience problems.

Willamson et al (1990), add that, if users are given clear information on how the method works, how to use the method and what to expect, they will be more satisfied users.

According to Thapa (1988) counseling potential can increase the use of new methods. As more information becomes available on use effectiveness, we are learning that some information given by family planning programs is incorrect. For example, family planning providers sometimes tell clients that (oral contraceptives) OCs are more effective than IUDs which is true only in tightly-controlled clinical trials. In general practice, IUDs are more effective than OCs and have longer continuation. Combinations of methods can be effective and traditional methods, including breast feeding, can be as effective as modern methods.

Jain (1988) believe that when clients are given information and a choice of methods, they may get a more appropriate methods and continue it longer. He adds that, increasing the number of methods available also tends to increase use.

Providers may know little about natural methods of family planning, especially the newer methods. In order to improve a program it may be very useful to assess provider

knowledge and attitudes toward the methods they are providing.(Family Health International, 1990)

Robey et al (1994) in one of the “Population Reports” conclude that family planning programs that train their staff well are better equipped to meet the needs of their clients. Technical training in clinical procedures and knowledge of contraceptive technology are fundamental to safe and accessible delivery of family planning services. Training in interpersonal communication also is essential to the quality of services.

They add; to improve the quality of care through better training:

- * Family planning counseling should become part of medical and nursing school curricula.
- * Interpersonal communication skills should be incorporated into on-the-job training for all health workers and volunteers;
- * Staff members with formal training in counseling should be given responsibility for providing on-the-job orientation of other staff members. (Robey et al, 1994)

Method specific training is also valuable, for example “Trainer’s Module for the LAM” was developed by American College of Nurse-Midwives to train health professionals on lactational Amenorrhea Method. According to Farrel,(1995) such a training program should enable the physician/nurse be able to : Define LAM, explain LAM’s mechanism of action, state the effectiveness of LAM, cite three advantages and two disadvantages of using LAM, state the three criteria and the fourth parameter for using LAM, cite the rationale for and the three criteria for changing to a complementary contraceptive method, and describe the procedure for introducing LAM to a client and that for introducing a complementary method to a client. (Farrel, 1995)

In summary, a number of factors affect the development of the health education role of health professionals.. There is a definite need for improved training. One of the difficulties this raises is how to fit more into the already overcrowded curriculum of

basic professional training courses. Partial solution to this problem might be to review priorities in basic training, and to emphasize post-basic education, such as Health Education Certificate Course. (Ewles, et al, 1985)

They add that the health education role of health professionals could be considerably improved if more emphasis were given to health education during basic training by tutors who themselves had better understanding of health education. Secondly, the support of the health professionals' managers in the field is essential. Finally, a flexible, multi-disciplinary approach to work, with the emphasis on prevention and quality rather than treatment and quantity, would create a climate conducive of effective health education practice. (Ewles et al. 1985)

Chapter Five

Operations Research in the Field of Mother and Infant Care

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What is Operations Research:

Operations research (OR) is the application of various research techniques to develop, test and recommend solutions to operational problems. (Hardee & Kafafi, 1989)

Fisher et al (1991) defined "Operations Research" as a continuous process with five basic steps:

- 1) problem identification and diagnosis,
- 2) Strategy selection,
- 3) Strategy experimentation and evaluation,
- 4) information dissemination, and
- 5) information utilization.

The process of OR is designed to increase the efficiency, effectiveness, and quality of services delivered by providers, and the availability, accessibility, and acceptability of services desired by users. (Fisher et al, 1991)

Hardee & Kafafi (1989), add that OR is action oriented research. Data collection revolves around the question, "What information is needed to provide better services, and how can this information be collected, analyzed, and used?"

The Goals and Objectives of Operations Research

The goal of OR is to find practical solutions to problems blocking effective delivery of family planning and health services. Well designed and implemented OR can help decision makers find ways to improve family planning delivery systems or design new ones. (Hardee & Kafafi, 1989)

OR studies tend to be small-scale, of short duration and highly focused on specific objectives. They should provide rapid feedback of information for the purpose of program improvement.

Hardee & Kafafi (1989) state that, OR projects usually serve one or more of three related objectives:

- 1) A policy objective is : To test new service delivery approaches that will require changes in program policy.(e.g. non-physician insertion of IUDs).
- 2) A program objective is : To improve the operation of existing programs by identifying more effective and efficient ways to use personnel, different family planning methods, communication media, or other components, and
- 3) An educational objective is : To train program managers in the use of OR so that these techniques will be used routinely to address new problems as they develop.

Experience worldwide suggests that OR findings have the most chance to being utilized if:

- 1) The service delivery program is already functioning and innovations can be introduced gradually.
- 2) Program managers are closely involved in identifying the problem to be addressed and carrying out the research.
- 3) Specific plans are developed from the start to make it easier to utilize the findings, for example, any financial or technical support needed to help expand a pilot project into a large-scale activity. (Hardee & Kafafi, 1989)

Koenig (1990), further describes the use of OR by stating that many of the problems of primary concern to managers are not necessarily national in scope, but are limited to specific areas and can best be addressed through the design and implementation of operations research studies. Given the emphasis in operations research studies on testing the impact of a new service delivery approach, an experimental design would ideally, be most desirable to use. Such designs, are termed “true experimental”.

Koenig (1990) believes that, as a minimum, it is usually possible to include in the design of a field intervention study: (1) a comparison/control group, (2) pre- and post-intervention measurements, and (3) an ongoing study monitoring system.

He confirms that, without these three design features, it is unlikely that the impact of a study intervention can be determined with any degree of accuracy.

Given the emphasis in operations research studies on testing the impact of a new service delivery approach, an experimental design was the most desirable to use under this study . Such design, termed “true experimental” that includes the pre-intervention-post-intervention control group design. (Koenig, 1990)

Koenig believes that Operations Research results in recommendations which will be perceived as most useful, and thus have the greatest chance of application. It will usually focus upon how existing service programs and facilities can be improved and made more efficient. This will generally entail smaller, incremental changes in service operations, rather than radical restructuring of existing programs. (Koenig, 1990)

Operations Research Design:

According to Hardee & Kafafi (1989) operations research is generally either descriptive or comparative in nature. Descriptive studies provide basic information to programmatic features such as the number and characteristic of clients served whereas comparative studies are aimed at showing whether or not a particular programmatic input has a desired effect. Comparative investigations may employ one of three strategies:

- 1-A “before and after” design whereby a baseline measurement taken before a service innovation is compared to subsequent measurements taken after the innovation has been in place.
- 2-A comparison or control group design in which the innovation (treatment) may be implemented in one area or population subgroup, and the effects assessed by a

comparison with another (control) area or subgroup with no intervention, or with kinds of intervention; and;

3- A combination of the above designs, with before and after measurements in both treatment and control group.

Sadik (1996) concludes that applying analytical techniques to program activities-operations research- has provided a rational basis for introducing many key innovations and improvements in family planning programs. For example, family planning programs benefit most from such research when:

- * The questions raised are important, substantive, and relevant;
- * Information is collected and analyzed regularly so as to guide all stages of program development.
- * Many types of information, including survey data and service statistics, are used, and
- * Qualitative data-for example, measures of client attitude- as well as quantitative data are used.

Subjects and Methods

Subjects and Methods

This study was conducted during the period March 1996 to August 1997. The main aim of this work is to prove the effectiveness and practicability of implementing a “**Mother Education Program**” under current conditions at the Ministry of Health, maternal and child health (MCH) centers.

Sample Selection and Description:

A decision was made that three MCH centers will be used to conduct the study. Two of them served as study sites and the third served as control. Two nurses were trained by the researcher to help conduct the educational sessions and to furthermore prove the feasibility of future implementation of such programs by a well-trained nurse.

To ensure proper intervention, the following contacts were made:

1- Three MCH Centers were identified in Cairo Governorate. Two of them served as study sites (Al-Mahkama and Morad St. Centers) and the third as control (Sariaa Al-Koba Center).

2- Necessary contacts and approvals were obtained as follows:

- * Approval of the Ministry of Health, Primary Health Care Department on the scope of work and location of study.
- * Approval of the District level Ministry of Health authorities.
- * Approval of the three MCH Centers' directors.

All women of both study and control groups had certain criteria for selection; these criteria were the following:

- 1- Primi-para or multi-para attending at the MCH center for prenatal care
- 2- Pregnant women at the third trimester of pregnancy.

One of the problems anticipated during the preparation for the field work was the difficulty of follow-up. In fact, women who go to a certain MCH center for prenatal care would not necessarily go to the same center for their children's immunization later. This problem exists simply because a woman will probably choose a closely located MCH center for prenatal care. On the other hand, when this same woman intends to register her baby and make his birth certificate, she is obliged to go to the MCH center of her district, or where the child is born. Later on, when the mother starts taking her child to the center for immunizations, she will most probably go to this same MCH center where she got his birth certificate. Accordingly, during prenatal care, baby registration and immunization the (mother/child) do not have to use the same MCH center. This describes how difficult tracking and follow-up of one mother could be.

Because of this expected difficulty in follow-up and tracking of mothers, it was important to recruit more than 100 study cases. In fact, 190 cases were recruited under the study. This surplus was included for the possibility of dropouts during the course of the study. Confirming with our expectations, the highest time for drop-out was right after the mother gave birth. Many home visits and correspondences were made for those mothers to make them come back to the center for follow-up; for themselves, as well as, for their children. In addition one hundred and thirty-three women were included as control. (comparative group).

Tools Description:

A Complete review, of the currently available educational and counseling materials was conducted. These materials were from the Ministry of Health, the National Population Council as well as international donors like WHO, UNICEF and USAID; child survival and family planning programs. This complete review revealed that, there is a surplus of materials already available in the market. There is definitely no need to reinvent the wheel. On the other hand the study examined the impact of using these currently available materials in the MCH centers under the study.

The Following Tools Were Designed for Data Collection:

Pre- and the post-intervention questionnaires were used at the beginning and end of the study. They both asked about the same information; the only difference between the two was the approach in questioning the mother. The first questionnaire (pre-intervention questionnaire) measured the background knowledge and experience of mothers, while the post-intervention-questionnaire measured the impact of the “Mother Education Program” on both the mother and the child.

1-Pre Intervention Questionnaire (Appendix A):

This questionnaire included personal data of the mother and questions related to pregnancy and family planning (knowledge and practice). In addition, the questionnaire included questions on woman nutrition during pregnancy, breastfeeding, weaning and infant immunizations.

2-Post Intervention Questionnaire (Appendix B):

This questionnaire included personal data for both mother and infant and questions related to family planning practice. It also included questions on mother nutrition during breast feeding, mother knowledge and practice of proper breast feeding and weaning. Furthermore, this questionnaire collected information related to timely infant immunization, the infant health during his first year of life, weight, length and general condition of the child at the end of the study.

Validity and Reliability of the Questionnaires:

The questionnaires were designed to fulfill the following criteria

- Easy to understand, so the mother will answer the questions with no need to further explain these questions.
- For each question, all possible answers were included to simplify the process of data collection as well as data analysis. Each question had only one answer if asked to the same mother (reliability).

- The different variables were included under specified sections of the questionnaire to ensure coverage of the intended variables. (validity)

To test validity and reliability of the questionnaires, they were tested on a pilot group of twenty mothers. Accordingly, the questionnaires were modified to ensure their validity and reliability.

For each women of the “study group”, and in addition to these questionnaires, specially designed follow-up forms were used along the whole period of the study. These forms were the following:

1-Form 1 (Appendix C):

This form was used to record data for pregnant women before delivery. These data were the following:

- *Personal data: Name, code No., and expected date of delivery.
- *Date of visit.
- *Gestation age.
- *Educational message received during this particular visit.
- *HP for mother during pregnancy if available.
- *Mother nutrition during pregnancy.

2-Form 2 (Appendix D):

This form was used to record data related to both mother and infant. The collected data included the following:

- *Personal data: Name of mother and child, date of child’s birth as well as the code No.
- * Date of visit.
- *Educational message received during the visit.
- *Family planning method.
- *Breast feeding.
- *Food supplementation for weaning.

In addition to these data, the following information was collected for each child each visit:

- 1- Child growth, weight and length.
- 2- Immunization received up to the date of the visit (according to the birth certificate stamps).

3-Growth Monitoring Chart (Appendix E):

This Chart was used to monitor infant's growth during the study period.

4- Take Home Card (Appendix F):

Each woman of the study group was given a follow-up card. The card was used to record the following data:

- *Personal data: Name, expected delivery date, code No., and method of delivery.
- *No. of visit.
- *Message received during the visit.
- *Mother nutritional status.
- *Tetanus immunization.
- *Infant nutrition.
- *Infant growth monitoring, weight and length.
- *Child immunization.
- *Date of next visit.

The main purposes of the "Take Home Card" were the following

- To register the information related to the visit, e.g. date and message received.
- To register the mode of infant nutrition and weaning schedule.
- To monitor the weight and height of the child.
- To indicate and register the date of the next visit.

The use of this card was very useful for follow-up reasons. It served as check point to ensure that the mother was exposed to all intended messages and the child is

getting the right nutrition according to his/her age. In addition, it helped both the mother and the researcher to follow-up the child growth very closely during the period of the study.

Mother Education Program:

This educational program was designed for the study group. Topics covered by this program were the following:

- 1- Mother nutrition during pregnancy and lactation.
- 2- Infant Nutrition:
 - * Breast feeding.
 - * Proper weaning practice.
- 3- Family planning counseling.

To efficiently implement this program, a complete "**Training Package**" was modeled.

The package included the following:

A-Lesson Plans: (Appendix H)

They were used in to train the nurses and guide mother coaching sessions

B-Content materials to cover sessions:

To guide training and ensure consistency of content and quality of sessions among various mothers along the study, content materials were developed. These supporting content materials covered the following subjects:

- Mother nutrition during pregnancy-----Appendix I
- Breastfeeding-----Appendix J
- Proper Weaning-----Appendix K

C-List of background materials used to support mother counseling. Appendix L

D-List of client materials (brochures and pamphlets) distributed to mothers during sessions-----Appendix M

E- Sample of Client file contents:

- 1- Prenatal Follow-up Sheet (Form1)----- Appendix C
- 2- Postnatal Follow-up Sheet (Form 2-----Appendix D
- 3- Growth Monitoring Chart -----Appendix E

F- Sample of "Mother Take Home Card" used for follow-up-----Appendix F

In addition, a handout for mothers on proper weaning was developed (included as part of Appendix M). On the other hand, there was no need to develop any additional materials to cover family planning counseling. There is already a surplus of materials available on this topic, e.g., family planing flip chart developed by the Ministry of Health in cooperation with the State Information Service(included as part of Appendix L).

Furthermore, at the beginning of the study, a group of posters developed by Ministry of Health and the State Information Service (of the Ministry of Information) , were posted on walls of the two MCH centers of the study group. List of these posters is included as Appendix N.

Study Design:

According to (Koenig, 1990), and given the emphasis, in operations research studies, on testing the impact of a new service delivery approach, the study design used here is "true experimental". It includes pre-intervention/post-intervention study/control group design. (Koenig, 1990)

The study started with mothers in their last trimester of pregnancy and ended-up with mothers and their infants 6-12 months old after delivery.

For the study group, a **Pre-Intervention Questionnaire** was used to collect base-line data from mothers in the last trimester of pregnancy. The control group was also subjected to the same pre-intervention questionnaire.

For the study group, a file was opened for each mother and her child to collect follow-up information. The file included, Form 1 (Appendix C), Form 2 (Appendix D) and child growth monitoring curve (Appendix E). Each woman of the study group was given a "Take Home Card" for follow-up (Appendix F).

Mothers of the study group received health education during the whole period of the study. In addition, follow-up was administered for these mothers during the last trimester of pregnancy as well as their infants through the first 6-12 months of age. The children were subjected to repeated examination and growth monitoring. Follow-up continued through the age of 6-12 months. At the end of the study, all mothers- whatever the age of the child may be, were subjected to the **Post-Intervention Questionnaire**.

The post-intervention questionnaire was also administered to the control group who had children aged 6-12 months corresponding to the age of the study group. In addition to the post-intervention questionnaire, children of both study and control groups were weighed and measured.

Though the post-intervention control group was taken from the same center of the pre-intervention, yet they could not be the same mothers so we ended up with:

- Study group.
- Pre-intervention control group.
- Post-intervention control group.

Program Implementation:

Both study and control groups were selected from the three centers during the period March-May 1996. The selected sample of women were in their last trimester of

pregnancy, either primipara or multipara. For the study cases, recruitment included the following:

- 1-Filling up the pre-intervention Questionnaire (Appendix A).
- 2-Opening a file for each study case and completion of the file personal data section for client follow-up.
- 3-Giving each woman a "Take Home Card" with the date for the next visit for follow-up (Appendix F).

From the administrative point of view, each center had its own assigned day of the week for prenatal care. This day was used as the weekly meeting day. Each client was advised to come back at least three times before delivery. She was given a specific day to come and the date of the upcoming visit was written on her take-home card. After recognition of the high drop-out rate, women of the study group were advised to come every other week.

After recruitment, clients of the study groups were given interactive sessions on three main topics; mother nutrition during pregnancy and lactation, breast feeding and family planning. These three topics were repeated consecutively in order to confirm that all clients attend all topics.

After delivery, the same topics were repeated with emphasis on continuing breastfeeding and family planning. In addition, sessions on gradual and proper immunizations were added and all mothers were reminded to immunize their children on time. During these visits every child was weighed and measured and his growth was plotted on his own growth curve in his mother's file. Follow-up of clients and children was done until most of the children have completed their first year of life and the youngest was 6 months old.

On December 7, 1996, and after almost ten months of the beginning of the field work a misfortune happened. One of the study centers was evacuated because the building owner claimed that the building is in danger to collapse. Accordingly, all activities

and equipment of this MCH center were moved to another one almost 15 Kilometers far from this MCH center. This accident happened with no prior notification to the MCH center director or personnel. This incidence caused a serious drop out of cases. They came for follow-up and found no center and no body to tell them where to go.

This same day, something had to be quickly done to minimize the possibility of loosing all study cases affiliated to this MCH center. Accordingly, a note was left on the building entrance and the doors of the MCH center. In addition, the researcher went and met the other center's director and got her approval to move the cases of the damaged center. In addition, letters were sent to all women who has reachable addresses to inform them that follow-up had moved to another center. Some came back and brought their friends but still a good number of study cases were lost during this unexpected incidence.

At the end of the study a post-intervention questionnaire was conducted for each woman of the study group. Her child was weighted and measured. The same questionnaire was used for the control group mothers and their children (Appendix B).

Statistical Analysis:

Data were entered on the computer and SPSS (win6) software package was used for analysis of the data. In addition, manual analysis was a must for some of the parameters.

To compare between the study group (before and after intervention) and its control group, the following variables/ indicators were measured:

1- Knowledge and practice of

A-Initiation and duration of successful breast feeding

B-Successful weaning.

D-Family planning.

These indicators were measured against level of education for both study and control groups.

2- Infant growth: adherence to normal growth rate during the period of the study.

3- Timely immunization for the child during his/her first year of life.

4- Prevalence of infant morbidity; diarrhea, vomiting and cough, for both study and control groups.

Results

Results

All mothers of both the study and control groups were recruited at their third trimester of pregnancy. They all passed through the KAP Pre- intervention Questionnaire (Appendix A) Mothers of the **study** group were exposed to the “**Mother Education Program**” and were given a “Take Home Card” (Appendix F) for follow-up. During this mother education program, mothers of the study group attended sessions on mother nutrition during pregnancy, breast feeding, proper weaning and family planning. Analysis of number of exposures to health education messages revealed that, for each mother, the mean number of prenatal visits was (Mean, Standard Deviation) 4 ± 2.3 and for postnatal visits was 14.5 ± 7.7 .

The pre-intervention questionnaire served two purposes. First, it measured the level of knowledge of both study and control groups, this was helpful in designing messages for the study group. Second, it was considered as baseline for the study group to measure impact of the intervention at the end of the study.

Mothers’ Profiles for Both Study and Control Groups:

Analysis of the mothers profiles of the three groups under study, revealed many similarities among the three groups, study group, prenatal control group and postnatal control group. The average **age** of the study group was 26.45 years. For the control, it was 26.42 for the prenatal group and was 27.6 years for the postnatal group. There was no significant difference in **parity** between the study and control groups. When mothers were asked during pregnancy, 42.1% of the study group and 46.6% of the control group were primiparas ($X^2= 0.5$, $P>0.05$)

On the other hand there was significant difference between the three groups regarding **level of education**. Illiteracy was highest in the study group, while secondary school was more in the post control group (Table 1).

Table 1

Sample Distribution according to Level of Education

| Level of Education | Study Group (107) | | Control/Pre (133) | | Control/Post (109) | |
|--------------------|----------------------|------|----------------------|------|-----------------------|------|
| | n | % | n | % | n | % |
| Illiterate | 38 | 35.5 | 22 | 16.5 | 9 | 8.3 |
| Primary | 14 | 13.1 | 16 | 12.1 | 14 | 12.7 |
| Preparatory | 19 | 17.8 | 21 | 15.8 | 16 | 14.7 |
| Secondary + | 36 | 33.6 | 74 | 55.6 | 70 | 64.3 |
| Total | 107 | 100 | 133 | 100 | 109 | 100 |

$$X^2 = 37.6$$

$$P < 0.00001$$

Family Planning, Knowledge, Attitude and Practice:

Women of both study and control groups were asked prenatally about where they got any prior information about family planning concept and methods. More than 50% of both groups indicated that T.V. was their main **source of knowledge** about family planning (52.3% for the study group and 61.7% for the control group). There was no significant difference between the two groups. (Table 2) (Fig.1). $Z = 1.16$, $P > 0.05$.

Table 2

Source of Prior Knowledge about Family Planning among Study and Control Groups by Percentage

| Source of Knowledge | Study Group (107) | | Control Group (133) | |
|----------------------|----------------------|------|------------------------|------|
| | n | % | n | % |
| T.V. | 56 | 52.3 | 82 | 61.7 |
| Radio | 2 | 1.9 | 0 | 0 |
| Friends | 6 | 5.6 | 5 | 3.8 |
| Mother/Mother In Law | 2 | 1.9 | 5 | 3.8 |
| Health Center | 25 | 23.4 | 9 | 6.8 |
| Others | 4 | 3.7 | 15 | 11.1 |
| More than one source | 6 | 5.6 | 17 | 12.8 |
| None | 6 | 5.6 | 0 | 0 |
| Total | 107 | 100 | 133 | 100 |

Source of Prior Knowledge about Family Planning among Study & Control Groups by Percentage

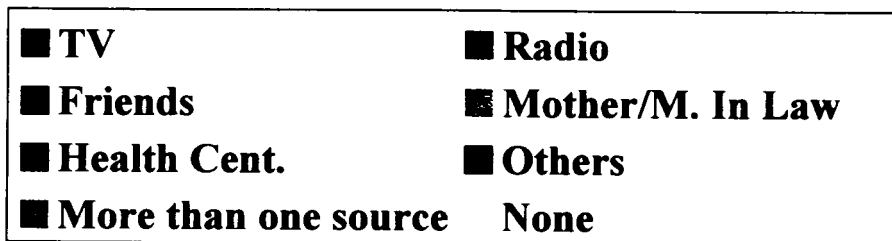
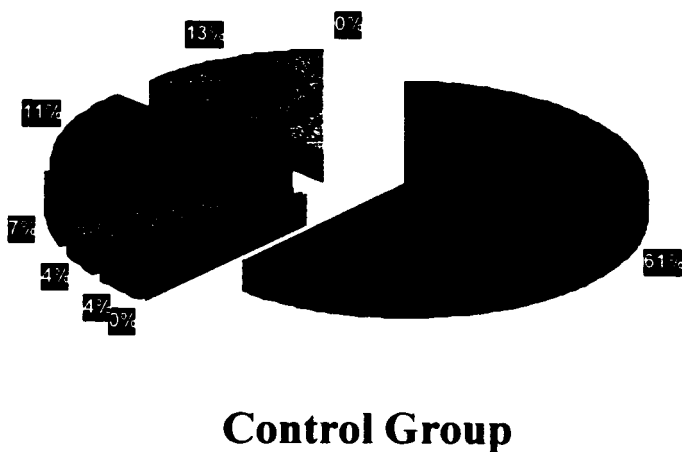
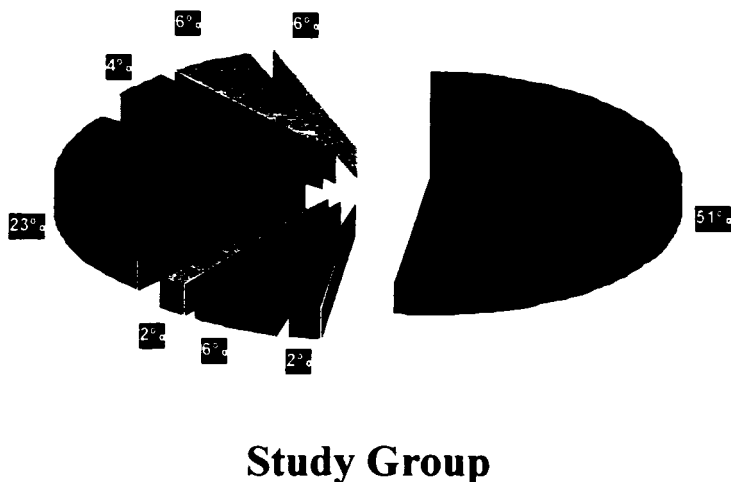


Figure (1)

Contraceptives; Prior Use and Intention:

There was no difference between the two groups regarding prior contraceptive use. 54.2% (58 women) of the study group , and 46% (61 women) of the control group have used family planning methods before. Likewise, there was no difference between the two groups regarding intention for future use; more than 95% of either group expressed their intention to use a contraceptive method after labor (Table 3).

Table 3

Intention for Use of a Family Planning Method among Study and Control Groups during the Prenatal Period by Percentage

| Intention | Study Group (107) | | Control Group (133) | |
|-----------|----------------------|------|------------------------|------|
| | n | % | n | % |
| Yes | 104 | 97.2 | 128 | 96.2 |
| No | 3 | 2.8 | 5 | 3.8 |
| Total | 107 | 100 | 133 | 100 |

$X^2 = 5.2$

$P > 0.05$

Family Planning Interpersonal Communication:

At the end of the study, exposure to family planning education through interpersonal communication and time of this exposure were measured. Analysis of the study group follow-up files, as well as the post-intervention questionnaires for both study and control groups revealed a significant difference in percentage of exposure to interpersonal communication

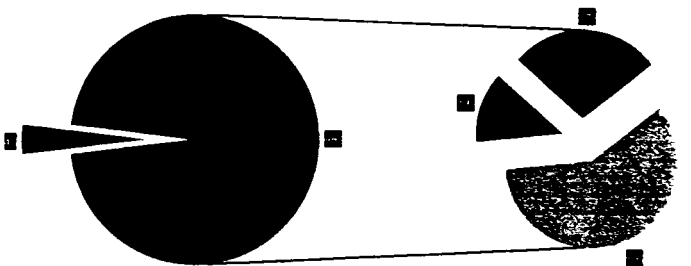
family planning messages. For the study group, 96.3 % (103 women) were exposed compared to 29.4% (32 women) of the control group. This difference was statistically significant, Z test revealed $P < 0.00001$ (Table 4). The study group received education both during pregnancy and after delivery at a much higher percentage (56.1%) than the control group (0.9%). The total during pregnancy was also significantly higher in the study group, Z test showed the probability to be less than 0.0001 (Table 4) (Fig.2).

Table 4

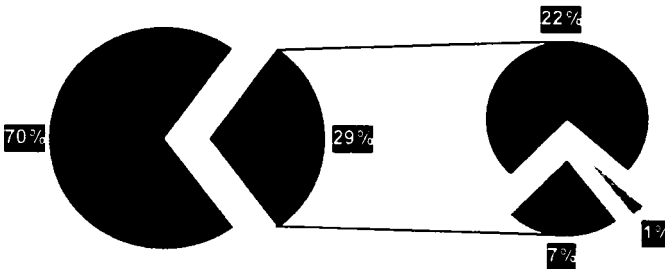
Exposure to Family Planning Interpersonal Communication and Time of Exposure among Study and Control Groups

| Exposure to F.P. Communication | Study Group (107) | | Control Group (109) | | Z Test | P |
|--------------------------------|-------------------|------|---------------------|------|--------|----------|
| | n | % | n | % | | |
| Not Exposed | 4 | 3.7 | 77 | 70.6 | 103.12 | <0.00001 |
| Exposed | 103 | 96.3 | 32 | 29.4 | | |
| After Delivery | 14 | 13.1 | 7 | 6.5 | 11.145 | <0.0001 |
| During Pregnancy | 29 (A) | 27.1 | 24 | 22.0 | | |
| Both | 60 (B) | 56.1 | 1 | 0.9 | | |
| Total During Pregnancy | 89 (A+B) | 83.2 | 25 | 22.9 | | |

Exposure to Family Planning Interpersonal Communication & Time of Exposure among Study & Control Groups



Study Group



Control Group

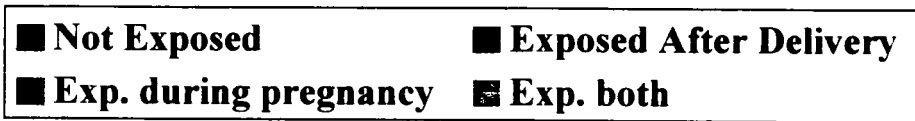


Figure (2)

Family Planning Practice and Incidence of Second Pregnancy:

Analysis of the post-intervention questionnaire revealed significant difference between the two groups regarding family planning practice; as 85 % of the study group compared to 72.5% of the control group have used a family planning method by the end of the study $X^2= 5.3$, $P<0.022$ (Table 5) (Fig.3).

When women were asked about the **reasons** for not using a family planning method, both groups of women gave similar reasons. Among these reasons were the mothers belief that breastfeeding would prevent pregnancy, medical reasons, or husband's refusal.

At the time of post- intervention questionnaire, new pregnancy was revealed among 6.5% of the study group and 6.4 % of the control group with no difference. $X^2 = 0.0003$, $P >0.05$ (Table 6).

Table 5

Percentage of Family Planning Practice among Study and Control Groups

| Family Planning Practice | Study Group (107) | | Control Group (109) | |
|---------------------------------|------------------------------|-------------|--------------------------------|-------------|
| | n | % | n | % |
| Yes | 91 | 85.0 | 79 | 72.5 |
| No | 16 | 15.0 | 30 | 27.5 |
| Total | 107 | 100 | 109 | 100 |

$$X^2 = 5.3$$

$$P < 0.022$$

Table 6

Percentage of Second Pregnancy among Study and Control Groups

| Pregnant at Post-Intervention Questionnaire | Study Group (107) | | Control Group (109) | |
|--|----------------------|------|------------------------|------|
| | n | % | n | % |
| Yes | 7 | 6.5 | 7 | 6.4 |
| No | 100 | 93.5 | 102 | 93.6 |
| Total | 107 | 100 | 109 | 100 |

$X^2 = 0.0003$

$P > 0.05$

Percentage of Family Planning Practice among Study and Control Groups

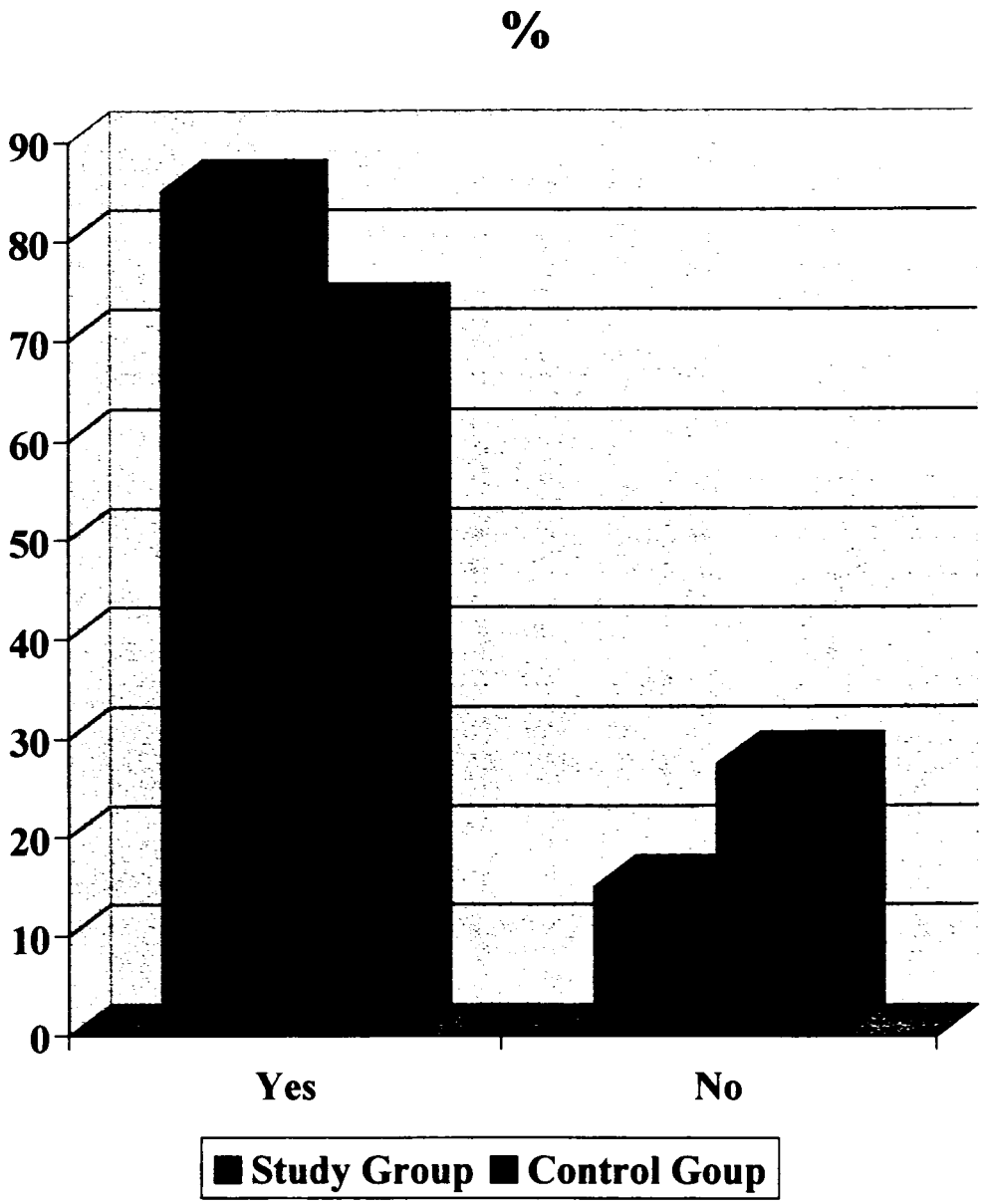


Figure (3)

Family Planning Method, Intention and Actual Use:

At the pre-intervention questionnaire, all women were asked about their **intention to use family planning** and which **method** they would use. This prenatal intention was compared with the actual postnatal practice concluded at the end of the study. Analysis of these results revealed increase in use of sure methods (pills, IUD and injectables), among the study group more than their own intention (72.0 % practice versus 54.2% intention). The difference was statistically significant ($X^2= 7.24$ & $P= <0.01$). (Table 8) (Fig 4)

In addition, when the two groups (study and control) were compared regarding the use of a sure method of family planning, 63.3% of the control group compared to 72.0% of the study group did use a sure method. The difference between the two groups was not statistically significant. $X^2=1.22$, $P>0.05$ (Table 8). Method specific comparison revealed that, the IUD was the most commonly used method for both study and control groups. Injectables were more used by the study group; while pills were more used by the control group. (Table 7) (Fig.5)

Table 7

Percentage of Use of Family Planning by Method among Study and Control Groups

| Method Used | Study Group (107) | | Control Group (109) | |
|----------------------|------------------------------|----------|--------------------------------|----------|
| | n | % | n | % |
| Pills | 7 | 6.5 | 14 | 12.8 |
| Loop | 58 | 54.2 | 54 | 49.6 |
| Injectables | 12 | 11.2 | 1 | 0.9 |
| Local Methods | 4 | 3.7 | 6 | 5.5 |
| Others | 10 | 9.4 | 4 | 3.8 |
| No Use | 16 | 15.0 | 30 | 27.5 |
| Total | 107 | 100 | 109 | 100 |

Table 8

**Percentage of Intended Family Planning Method and Actually Used Method
among Study and Control Groups**

| Family Planning Method | Study/Intended (107) | | Study/Post (107) | | Control/Post (109) | |
|--|-------------------------|------|---------------------|------|-----------------------|------|
| | n | % | n | % | n | % |
| SurMethods Pills, IUD & Injectables | 58 | 54.2 | 77 | 72.0 | 69 | 63.3 |
| Other Methods | 6 | 5.6 | 14 | 13.0 | 10 | 9.2 |
| Don't Know | 12 | 11.2 | | | | |
| Ask Doctor | 28 | 26.2 | | | | |
| Total Use | | | 91 | 85.0 | 79 | 72.5 |
| No Intention/No Use | 3 | 2.8 | 16 | 15.0 | 30 | 27.5 |
| Total | 107 | 100 | 107 | 100 | 109 | 100 |

**Difference between intention and actual use of sure methods among the
study group**

$$X^2 = 7.24$$

$$P < 0.01$$

Difference between study and control groups in sure method use

$$X^2 = 1.22$$

$$P > 0.05$$

Percentage of Intended Family Planning Method and Actually Used Method among Study & Control Groups

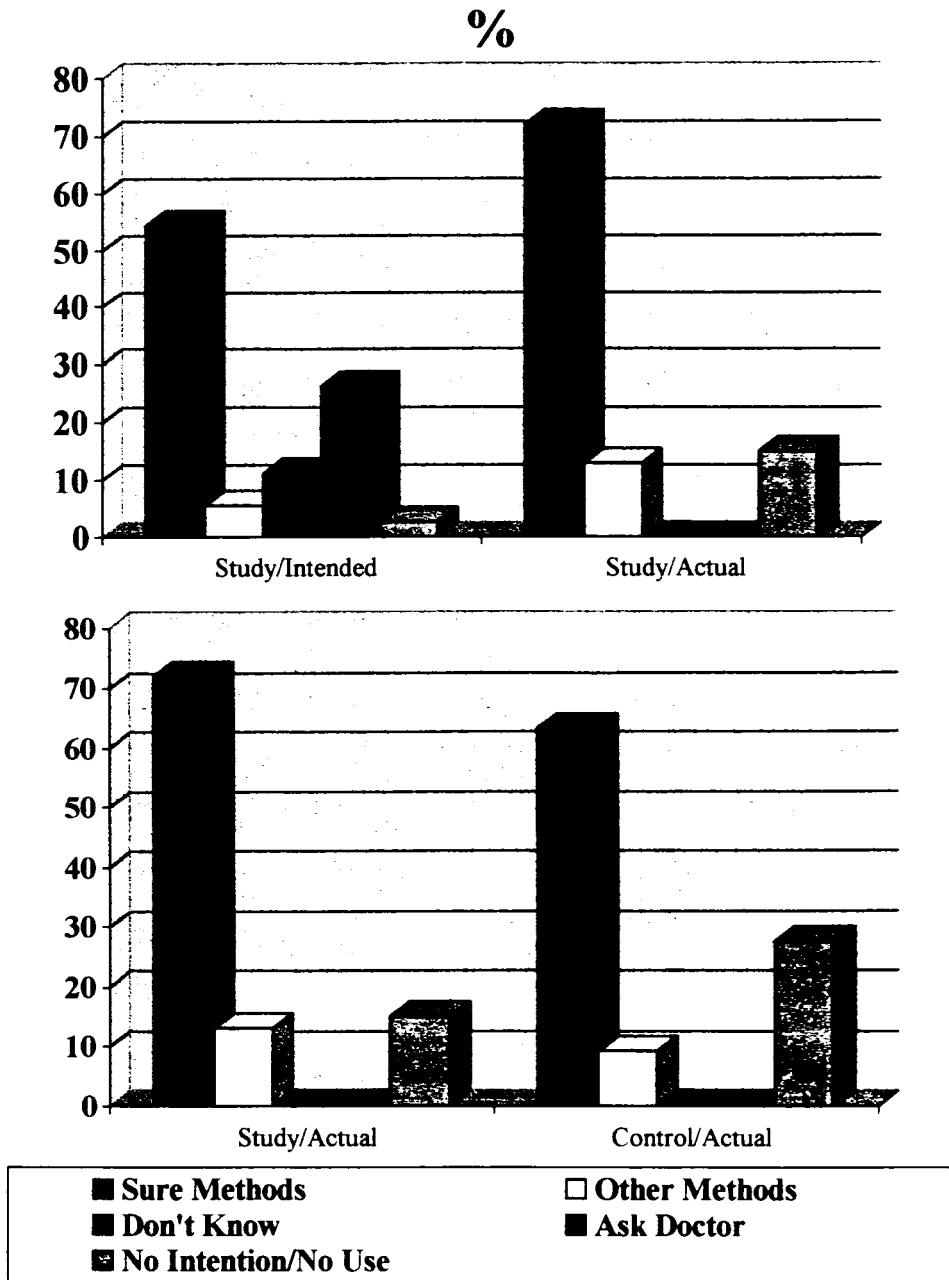
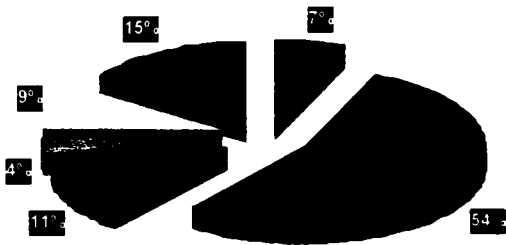


Figure (4)

Percentage of Use of Family Planning by Method among Study & Control Groups



Study Group



Control Group

| | | |
|-----------------|----------|---------------|
| ■ Pills | ■ Loop | ■ Injectables |
| ■ Local Methods | ■ Others | ■ No Use |

Figure (5)

Family Planning, Time of Practice:

The end of the purperium is the optimal time to use a family planning method. At the end of the study, both groups were asked about the time they have started using a contraceptive method. Women of the study group had a higher percentage of contraceptive use by the end of the purperium 75.8% (69 women). On the other hand, 72.2% (57 women) of the control group women have used a contraceptive method by the same time. The difference is not statistically significant, $X^2= 1.81$ and $P>0.05$ (Table 9).

Table 9

Measurement of Time of Practice of Family Planning for Both Study and Control Groups

| Time of Practice of Family Planning | Study Group (91)* | | Control Group (79* ¹) | |
|-------------------------------------|----------------------|------|--------------------------------------|------|
| | n | % | n | % |
| By end of purerium | 69 | 75.8 | 57 | 72.2 |
| 3-4 Months | 15 | 16.5 | 11 | 13.9 |
| After 4 Months | 7 | 7.7 | 11 | 13.9 |
| Total | 91 | 100 | 79 | 100 |

$X^2= 1.81$

$P>0.05$

¹Note that the total number represented in this table is the number of women who actually used a contraceptive method.

Relationship between Family Planning Practice and Level of Education for Both Study and Control Groups:

Practice of family planning was measured in relation to level of education for both study and control groups (Table 10) (Fig.6).

This comparison revealed that, practice of family planning was highest among women with secondary education or more, for both study and control groups.

Table 10

Family Planning Practice % among Study and Their Control According to Their Level of Education

| Practice of Family Planning/Level of Education | Study Group (107) | | | | Control Group (109) | | | |
|--|-------------------|------|-----------------|------|---------------------|------|-----------------|------|
| | Practice F.P.(91) | | No Practice(16) | | Practice F.P.(79) | | No Practice(30) | |
| | n | % | n | % | n | % | n | % |
| Illiterate | 27 | 29.7 | 11 | 68.8 | 7 | 8.8 | 2 | 6.7 |
| Primary Education | 14 | 15.4 | 0 | 0 | 10 | 12.7 | 4 | 13.3 |
| Preparatory Education | 17 | 18.6 | 2 | 12.5 | 11 | 13.9 | 5 | 16.7 |
| Secondary + | 33 | 36.3 | 3 | 18.7 | 51 | 64.6 | 19 | 63.3 |

Family Planning Practice % among Study & Their Control According to Their Level of Education

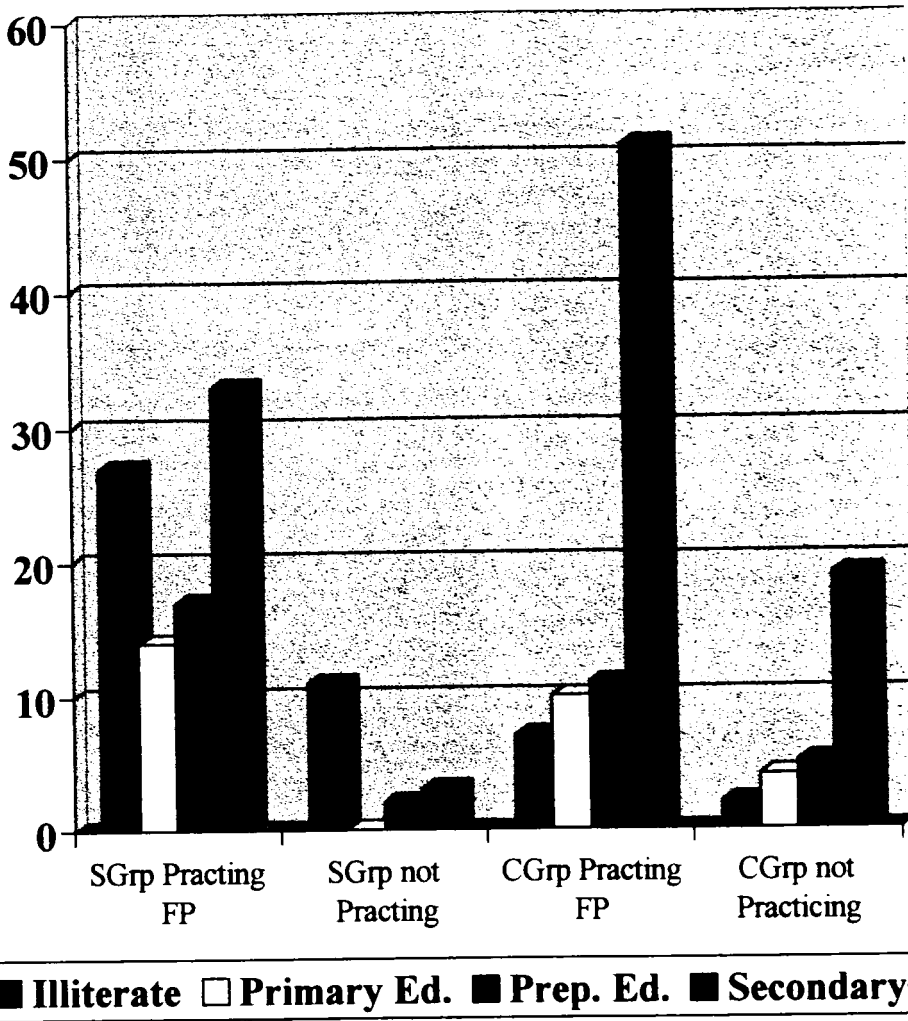


Figure (6)

Further analysis of the results was conducted to compare between the two groups (study and control), in relation to level of education. The percentage of practice was measured against the total number of women with a certain level of education (grouped as less than secondary and secondary +). The following results were concluded:

- Among the study group, there was no significant difference in family planning practice between women of less than secondary education and those with secondary or more education $X^2= 1.87, P>0.05$.
- Among the control group there was a statistically significant difference between the two groups of women $X^2=0.01, P<0.01$
- There was also no significant difference between women of both study and control groups with less than secondary education $X^2= 1.44, P>0.05$
- On the other hand, there was a statistically significant difference between women of both study and control groups who had secondary or more education $X^2= 5.11, P<0.02$

These results confirm that, although more educated women are usually more perceptive to family planning practice, mother education programs could increase women's family planning practice regardless of their level of education.

Family Planning Practice of a Sure Method According to Level of Education:

Family planning practice of a "Sure Method" (Pills, IUDs and Injectables) was measured according to level of education for both study and control groups. Analysis of the results revealed that most levels of education of the study group had higher percentages of use of a sure method for family planning, than their corresponding levels of education of the control group. Although all levels of education showed an observable difference between the two groups, the only significant difference was between the illiterate women of the two groups ($X^2= 11.49, P= <0.01$). For the study group, women with no education (illiterate) and those with secondary education or more had higher levels of practice than women with primary or preparatory education, The difference among these groups was statistically significant $Z=2.72, P<0.01$. (Table 11)

Table 11

Practice of Sure Methods of Family Planning % According to Level of Education among Study & Control Groups

| Sure F.P. Method/ Level of Education | Study Group (77)* | | Control Group (69)** | |
|---|----------------------|------|-------------------------|------|
| | n | % | n | % |
| Illiterate | 21 | 27.3 | 7 | 10.2 |
| Primary Education | 13 | 16.9 | 9 | 13.0 |
| Preparatory Education | 15 | 19.5 | 10 | 14.5 |
| Secondary + | 28 | 36.3 | 43 | 62.3 |
| Total | 77 | 100 | 69 | 100 |

$X^2 = 11.49$ $P < 0.01$

²These numbers indicate women who practiced a sure method among the two groups.

Practice of Sure Methods of Family Planning % According to Level of Education among Study & Control Groups

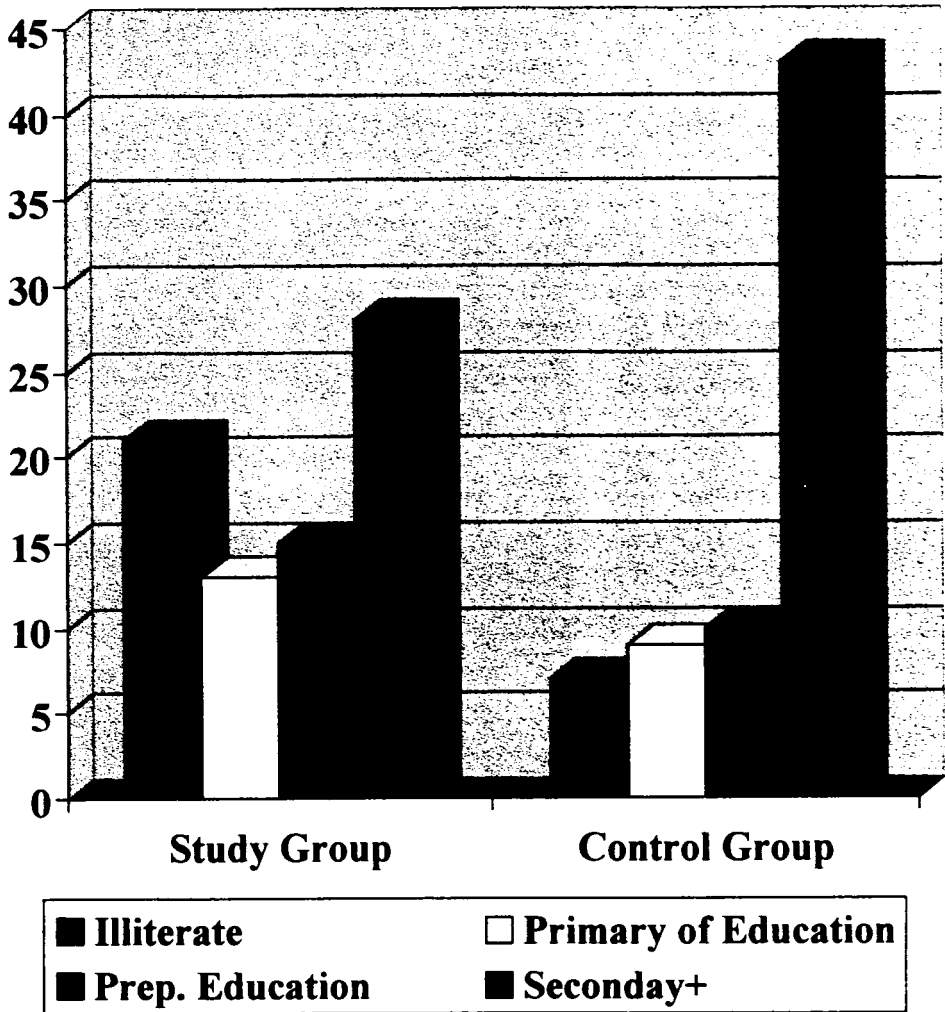


Figure (7)

Mean Number of Desired Children:

Measurement of the mean number of desired children for mothers of both study and control groups revealed that the study group mothers wanted a mean number of 2.25 child (SD = ± 0.83), while the control group mothers wanted a mean number of 2.66 child (SD = ± 0.72). The difference between the two groups was not statistically significant ($t = 0.59$, $P > 0.05$).

Breastfeeding, Knowledge and Practice:

Intention for Breastfeeding:

During pregnancy, when mothers were asked about their intention to breastfeed their upcoming newborns, almost all mothers, of both study (98.1%) and control groups (96.1%), said that they intend to breast feed their infants. The mothers who didn't say yes answered "I don't know or, it depends if I will have milk or not".

The post intervention questionnaire revealed that only one mother of the study group (0.9%) compared to five mothers of the control group (4.7%) didn't breastfeed at all. The difference between the two groups was not statistically significant $Z = 1.7$, $P > 0.05$.

Basic Knowledge about Breastfeeding Practice:

Before intervention, (during pregnancy) both study and control groups had basic knowledge about the proper time to initiate breastfeeding and practice of breastfeeding. Although the control group had better level of knowledge than the study group (66.2% versus 60.7%), there was no significant difference between the two groups. $X^2 = 0.75$, $P > 0.05$ (Table 12)

Table 12

Breastfeeding Prenatal Knowledge among Study and Control Groups

| | Study Group (107) | | Control Group (133) | |
|------------------|----------------------|------|------------------------|------|
| | n | % | n | % |
| Know Proper B.F. | 65 | 60.7 | 88 | 66.2 |
| Doesn't Know | 42 | 39.3 | 45 | 33.8 |
| Total | 107 | 100 | 133 | 100 |

$$X^2 = 0.75$$

$$P > 0.05$$

Prior Breastfeeding Experience:

Both study and control groups were asked, at the pre-intervention questionnaire, about their prior experience with breastfeeding. For the study group, 62 women were multiparas; of which 60 mothers (96.8%) breastfed a previous child. On the other hand, 71 women of the control group were multiparas; of which 61 women (85.9%) breastfed a previous child (table 13). Analysis of these results revealed a statistically significant difference between the two groups regarding their prior experience with breastfeeding ($Z=2.32$, $P<0.01$).

Table 13

Distribution of Mothers among Study and Control Groups according to Parity

| | Study Group | | Control Group | |
|-----------|-------------|------|---------------|------|
| | n | % | N | % |
| Primipara | 45 | 42.1 | 62 | 46.6 |
| Multipara | 62 | 57.9 | 71 | 53.4 |
| Total | 107 | 100 | 133 | 100 |

Knowledge of Benefits of Breastfeeding:

At the end of the study period, both study and control groups were asked about their knowledge of benefits of breastfeeding. Analysis of results revealed that 74.8% of the study group knew at least three benefits for breastfeeding. On the other hand, only 3.7% of the control group knew such number of benefits. The difference between the two groups was significant $X^2 = 129.8$ and $P < 0.00001$ (Table 14) (Fig. 8).

For the study group, the results of the post-intervention questionnaire were compared with their pre-intervention level of knowledge. Analysis of these results revealed highly significant difference between both pre and post intervention level of knowledge of the study group ($t=17.58$, $P < 0.0001$). Furthermore, at the end of the study, the difference between the study and the control groups was highly significant ($t= 2$, $P < 0.0001$) (Table 15)

Table 14

**Knowledge of Benefits of Breast Feeding
Among Study and Control Groups**

| | Study Group (107) | | Control Group (109) | |
|--------------------------------------|----------------------|------|------------------------|------|
| | n | % | n | % |
| Know one or two benefits | 27 | 25.2 | 105 | 96.3 |
| Know more than three benefits | 80 | 74.8 | 4 | 3.7 |
| Total | 107 | 100 | 109 | 100 |

$$X^2 = 129.8$$

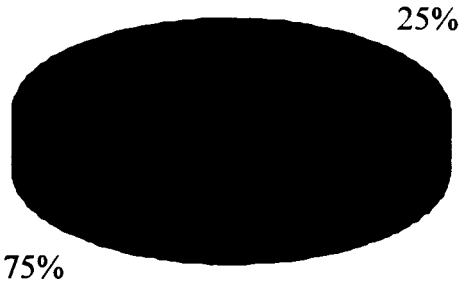
$$P < 0.00001$$

Table 15

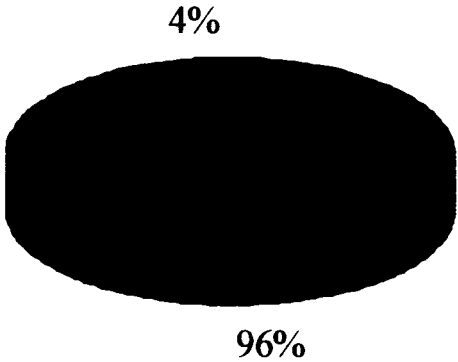
Mean Number of Known Benefits of Breastfeeding

| | n | Mean | Standard Deviation |
|--------------------------------|-----|------|--------------------|
| Study Pre-Intervention | 107 | 1.2 | ± 0.74 |
| Study Post-Intervention | 107 | 3.1 | ± 0.99 |
| Control/Post | 109 | 1.3 | ± 0.66 |

Knowledge of Benefits of Breast Feeding among Study & Control Groups



Study Group



Control Group

■ Know 1 or 2 benefits ■ Know more than 3 benefits

Figure (8)

Initiation of Breastfeeding:

At the post intervention, both groups were asked about when they actually initiated breastfeeding. Answers revealed significant difference between the two groups as 33% of the study group versus 12 % of the control group have started breastfeeding by the first half-hour after delivery. $X^2 = 13.49, P < 0.0002$. (Table 16) (Fig.9)

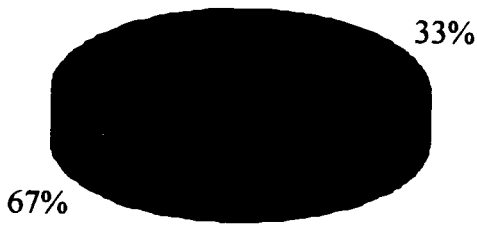
Table 16
Actual Time of Initiation of Breast Feeding
among Study and Control groups

| Time of Initiation of Breast Feeding | Study (107) | | Control (109) | |
|--------------------------------------|-------------|------|---------------|------|
| | n | % | n | % |
| 1st half hour | 35 | 33.0 | 13 | 12.0 |
| Afterwards | 72 | 67.0 | 96 | 88.0 |
| Total | 107 | 100 | 107 | 100 |

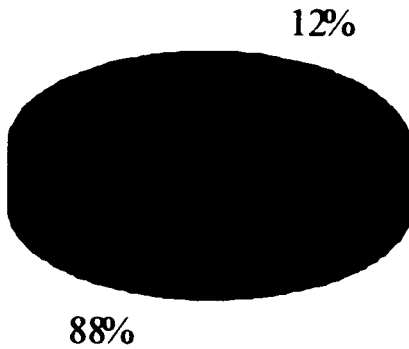
$X^2 = 13.49$

$P < 0.0002$

Actual Time of Initiation of Breast Feeding among Study & Control Groups



Study Group



Control Group



Figure (9)

Continuity of Breastfeeding:

At the time of the post intervention questionnaire, the mean age of children of the study group was 10.7 months and, of the control group was 9.1 months. Both groups were asked if they were still breastfeeding. Results revealed that mothers of the study groups continued to breastfeed for longer periods than the control group. At the end of the study period, 87.9% of the study group versus 78.0% of the control group were still breastfeeding. The difference between the two groups is not statistically significant. $Z=1.59$, $P>0.05$

Exclusiveness of Breastfeeding:

Exclusive breastfeeding was one of the messages given continuously to mothers (of the study group) at the prenatal period and during the first 4 to 6 months after delivery. Exclusive breastfeeding meant nothing is given to the baby (not even water) but breast milk. Along the study period, mothers were asked if they were still exclusively breastfeeding.

At the end of the study period, the follow-up sheets of the study group were analyzed along with post intervention questionnaires for both study and control groups. Such analysis revealed a significant difference between the two groups regarding exclusive breastfeeding.

During the first 4 months, 70 mothers of the study group (65.4%) versus only 23 of the control group (21.1%) were still exclusively breastfeeding. Furthermore, during the first 6 months exclusive breastfeeding continued for 37 mothers of the study group (34.6%) versus only 8 of the control group (7.3%). In addition, 8 mothers of the control group (compared to 2 mothers of the study group) continued to exclusively breastfeed their children after the age of six months. $X^2 = 76.65$, $P=<0.00001$. (Table 17) (Fig. 10).

Table 17

**Duration of Exclusive Breastfeeding (EBF)
Among Study and Control Groups**

| No. Of Completed Months of EBF | Study Group (107) | | Control Group (109) | |
|-----------------------------------|----------------------|------|------------------------|------|
| | n | % | n | % |
| 2 Months | 93 | 86.9 | 47 | 43.1 |
| 3 Months | 81 | 75.7 | 33 | 30.3 |
| 4 Months | 70 | 65.4 | 23 | 21.1 |
| 5 Months | 52 | 48.6 | 12 | 11.0 |
| 6 Months | 37 | 34.6 | 8 | 7.3 |
| >6 Months | 2 | 1.9 | 8 | 7.3 |

$X^2 = 76.65$

$P = < 0.00001$

Duration of Exclusive Breast Feeding among Study & Control Groups

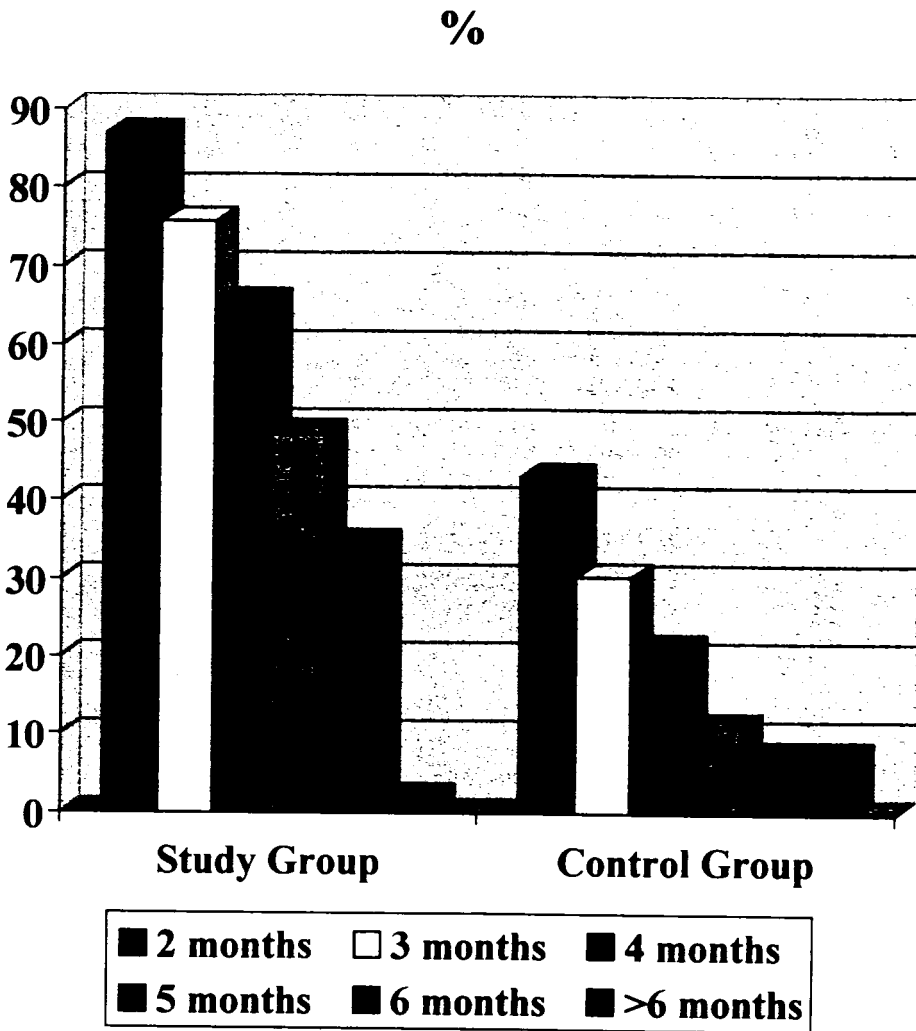


Figure (10)

Further analysis of data related to exclusive breastfeeding was done. The main goal of this analysis was to find the relationship between the period of exclusive breastfeeding and level of education of mothers within each group.

For the study group, the highest percentage of women who practiced exclusive breastfeeding was among those with primary education. This was evident when the children were four months old (92.9%), and also when they were 6 months old (57.1%). Illiterate women had the lowest percentage of exclusive breastfeeding (50%) at the age of four months and (28.9%) at the age of 6 months. Although there is an observed difference in practice of exclusive breastfeeding between different levels of education of the study group, this difference was not statistically significant; meaning that level of education of women of the study group did not influence their practice of exclusive breastfeeding. $X^2 = 0.34$. $P > 0.05$. (Table 18)

Analysis of results for the control group revealed that, at four months age, the illiterate mothers who continued to exclusively breastfeed their children had the highest percentage (44.4%), while none of the mothers with primary education was exclusively breastfeeding by the same age. At the age of six months, still illiterate women had the highest percentage of exclusive breastfeeding, (33.3%). (Table 19)

Comparison between these two tables (18 and 19), reveals a big difference in exclusive breastfeeding among mothers (of both groups) with primary education. This difference is evident when their children were at four month age, 92.9% of the study group were still exclusively breastfeeding their children versus none of the control group mothers. Another level of education with an observable difference is (secondary and more) where 72.2% of the study group mothers were still exclusively breastfeeding their infants at the age of four versus only 20.0% of the control group mothers. The difference between the study and control group remains big among mothers of this level of education at the age of 6 months as 33.3% of the study group mothers are still EBF versus only 5.7% of the control group mothers

Table 18

Duration of EBF According to Level of Education for the Study Group

| No of Months Completed EBF | Illiterate (38) | | Primary (14) | | Prep (19) | | Secon + (36) | |
|----------------------------|-----------------|------|--------------|------|-----------|------|--------------|------|
| | n | % | n | % | n | % | n | % |
| 2 Months | 30 | 78.9 | 14 | 100 | 16 | 84.2 | 33 | 91.7 |
| 3 Months | 23 | 60.5 | 13 | 92.9 | 14 | 73.7 | 31 | 86.1 |
| 4 Months | 19 | 50 | 13 | 92.9 | 12 | 63.2 | 26 | 72.2 |
| 5 Months | 15 | 39.5 | 10 | 71.4 | 7 | 36.8 | 20 | 55.6 |
| 6 Months | 11 | 28.9 | 8 | 57.1 | 6 | 31.6 | 12 | 33.3 |
| > 6 Months | 0 | 0 | 1 | 7.1 | 1 | 5.3 | 0 | 0 |

Table 19

Duration of EBF According to Level of Education for the Control Group

| No of Months Completed EBF | Illiterate (9) | | Primary (14) | | Prep (16) | | Secon + (70) | |
|----------------------------|----------------|------|--------------|------|-----------|------|--------------|------|
| | n | % | n | % | n | % | n | % |
| 2 Months | 6 | 66.7 | 4 | 28.6 | 7 | 43.8 | 30 | 42.9 |
| 3 Months | 5 | 55.6 | 2 | 14.3 | 6 | 37.5 | 20 | 28.6 |
| 4 Months | 4 | 44.4 | 0 | 0 | 5 | 31.3 | 14 | 20.0 |
| 5 Months | 3 | 33.3 | 0 | 0 | 3 | 18.8 | 6 | 8.6 |
| 6 Months | 3 | 33.3 | 0 | 0 | 1 | 6.3 | 4 | 5.7 |
| > 6 Months | 3 | 33.3 | 0 | 0 | 1 | 6.3 | 4 | 5.7 |

Weaning, Knowledge and Practice:

Weaning Background Knowledge:

At the beginning of the study, both groups were asked about their background knowledge regarding weaning. They were asked about the proper time to start weaning and what are the proper kinds of food used for weaning. Answers revealed that most of the mothers of both groups believed that weaning should start even before the age of four months. 14.0% of the study group and 19.5% of the control group answered at the pre intervention questionnaire that weaning should start at an age less than 4 months. There was no significant difference in such basic knowledge about time of weaning between the two groups ($X^2 = 10.5$, $P > 0.05$) (Table 20)

Results of questions related to the proper food used for weaning revealed that many mothers don't have the right information regarding proper weaning (41.1% of the study group and 69.9% of the control group). The difference between the two groups was statistically significant ($X^2 = 20.17$, $P < 0.001$) (Table 21)

When both study and control groups were asked at the pre intervention about the proper time to stop breastfeeding most of them answered that two years is the right age for complete weaning (65.4% and 72.2% respectively)

Table 20

Prior Knowledge of Proper Time to Start Weaning Measured Prenatally
among Study and Control Groups

| | Study Group (107) | | Control Group (133) | |
|-------------|----------------------|------|------------------------|------|
| | n | % | n | % |
| <4 months | 15 | 14.0 | 26 | 19.5 |
| At 4 months | 56 | 52.3 | 62 | 46.6 |
| At 6 months | 16 | 15.0 | 25 | 18.8 |
| >6 months | 6 | 5.6 | 13 | 9.8 |
| Don't know | 14 | 13.1 | 7 | 5.3 |

$X^2 = 10.5$

$P > 0.05$

Table 21

Prior Knowledge of Proper Weaning Food Measured Prenatally among
Study and Control Groups

| | Study Group(107) | | Control Group(133) | |
|---------------------|------------------|------|--------------------|------|
| | n | % | n | % |
| Correct Knowledge | 28 | 26.2 | 19 | 14.3 |
| Incorrect Knowledge | 44 | 41.1 | 93 | 69.9 |
| Don't know | 35 | 32.7 | 21 | 15.8 |
| Total | 107 | 100 | 133 | 100 |

$X^2 = 20.17$

$P < 0.001$

Time of Actual Weaning:

At the time of the post intervention questionnaire, both groups were asked about the time they actually introduced both fluids and solids in their infants feeding. The answers of these questions were found significantly different among the study and control groups. Regarding introduction of fluids, 82.6% the control group versus 27.2% of the study group have introduced fluids at less than four months age. On the other hand 49.5% of the control group versus only 8.4% of the study group have introduced solids at an age less than four months. (Tables 22 and 23) (Fig. 11 & Fig. 12).

Comparison between intention of the study group against their actual practice postnatally revealed a highly significant difference in both introduction of fluids ($X^2 = 35.44$, $P < 0.0001$) and introduction of solids ($X^2 = 43.74$, $P < 0.0001$). There was also highly significant difference between the study group and their control regarding introduction of fluids ($X^2 = 84.5$, $P < 0.0001$) and solids ($X^2 = 70.73$, $P < 0.0001$) (Tables 22 and 23).

It is interesting to note that two women of the control group were physicians. Surprisingly, they were both proud of introducing fluid and semi-solid food to their children at an age less than three months.

Table 22

Time for Weaning with Fluids. Knowledge against Actual Practice among Study and Control Groups

| | Study Group/Pre (107) | | Study Group/Post (107) | | Control Group (109) | |
|----------------|--------------------------|------|---------------------------|------|------------------------|------|
| | n | % | n | % | n | % |
| 0-3 months | 15 | 14.0 | 29 | 27.1 | 90 | 82.6 |
| 4 months | 50 | 46.7 | 18 | 16.8 | 11 | 10.1 |
| 5-6 months | 22 | 20.6 | 60 | 56.1 | 3 | 2.8 |
| After 6 months | 6 | 5.6 | | | 5 | 4.5 |
| Don't Know | 14 | 13.1 | | | | |
| Total | 107 | 100 | 107 | 100 | 109 | 100 |

Difference between study/pre and study /post was highly significant

$$X^2 = 35.44$$

$$P < 0.0001$$

Difference between study/post and control/post was also highly significant,

$$X^2 = 84.5$$

$$P < 0.0001$$

Time for Weaning with Fluids. Knowledge against Actual Practice among Study and Control Groups

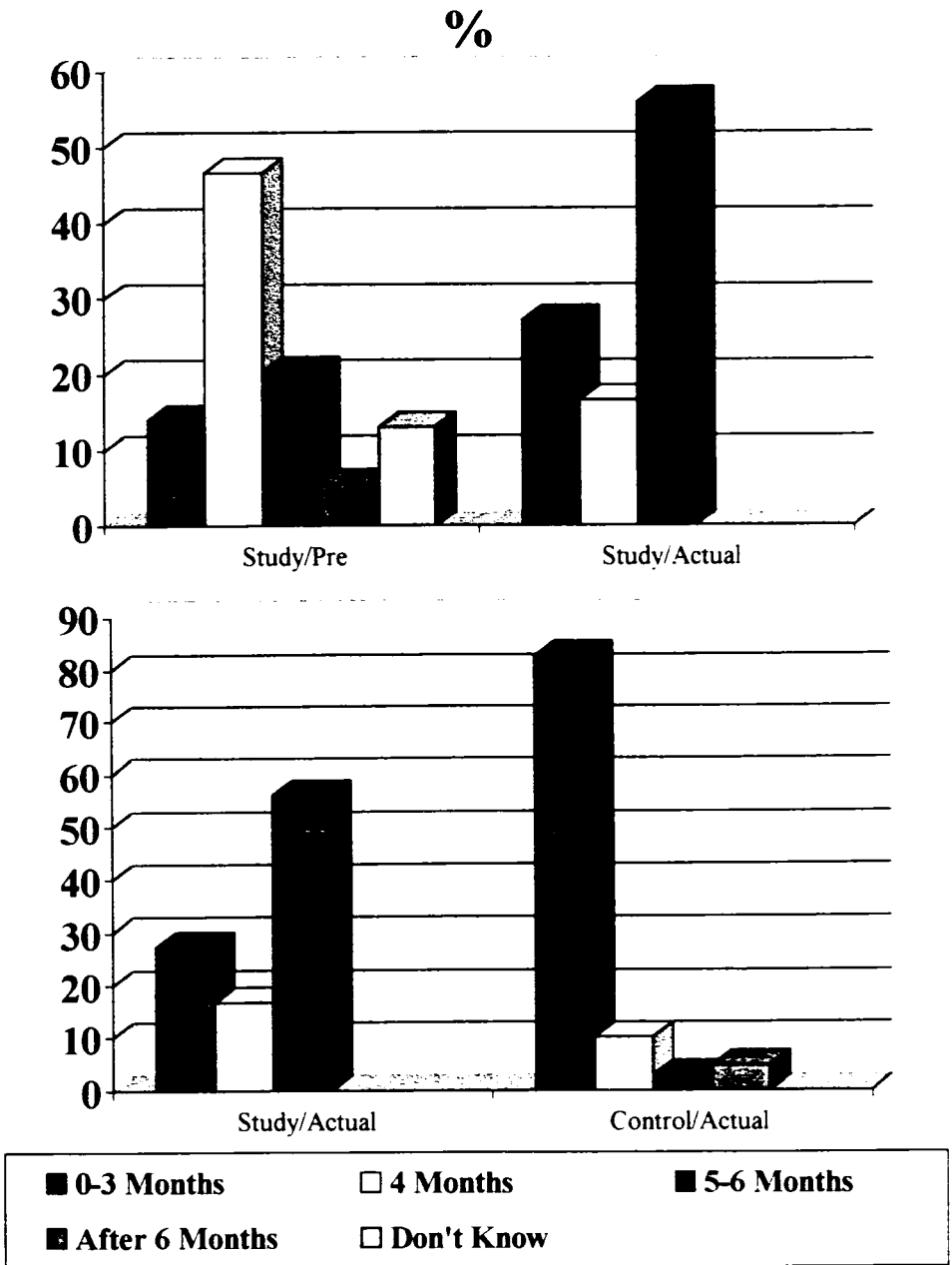


Figure (11)

Table 23

Time for Weaning with Solids Knowledge Against Actual Practice among
Study and Control Groups

| | Study Group/Pre (107) | | Study Group/Post (107) | | Control Group (109) | |
|----------------|--------------------------|------|---------------------------|------|------------------------|------|
| | n | % | n | % | n | % |
| 0-3 months | 15 | 14.0 | 9 | 8.4 | 54 | 49.5 |
| 4 months | 50 | 46.7 | 20 | 18.7 | 30 | 27.5 |
| 5-6 months | 22 | 20.6 | 77 | 72.0 | 18 | 16.5 |
| After 6 months | 6 | 5.6 | 1 | 0.9 | 7 | 6.5 |
| Don't Know | 14 | 13.1 | | | | |
| Total | 107 | 100 | 107 | 100 | 109 | 100 |

Difference between study/pre and study/post was highly significant

$$X^2 = 43.74$$

$$P < 0.0001$$

Difference between study/post and control/post was also highly significant

$$X^2 = 70.73$$

$$P < 0.0001$$

Time for Weaning with Solids. Knowledge against Actual Practice among Study and Control Groups

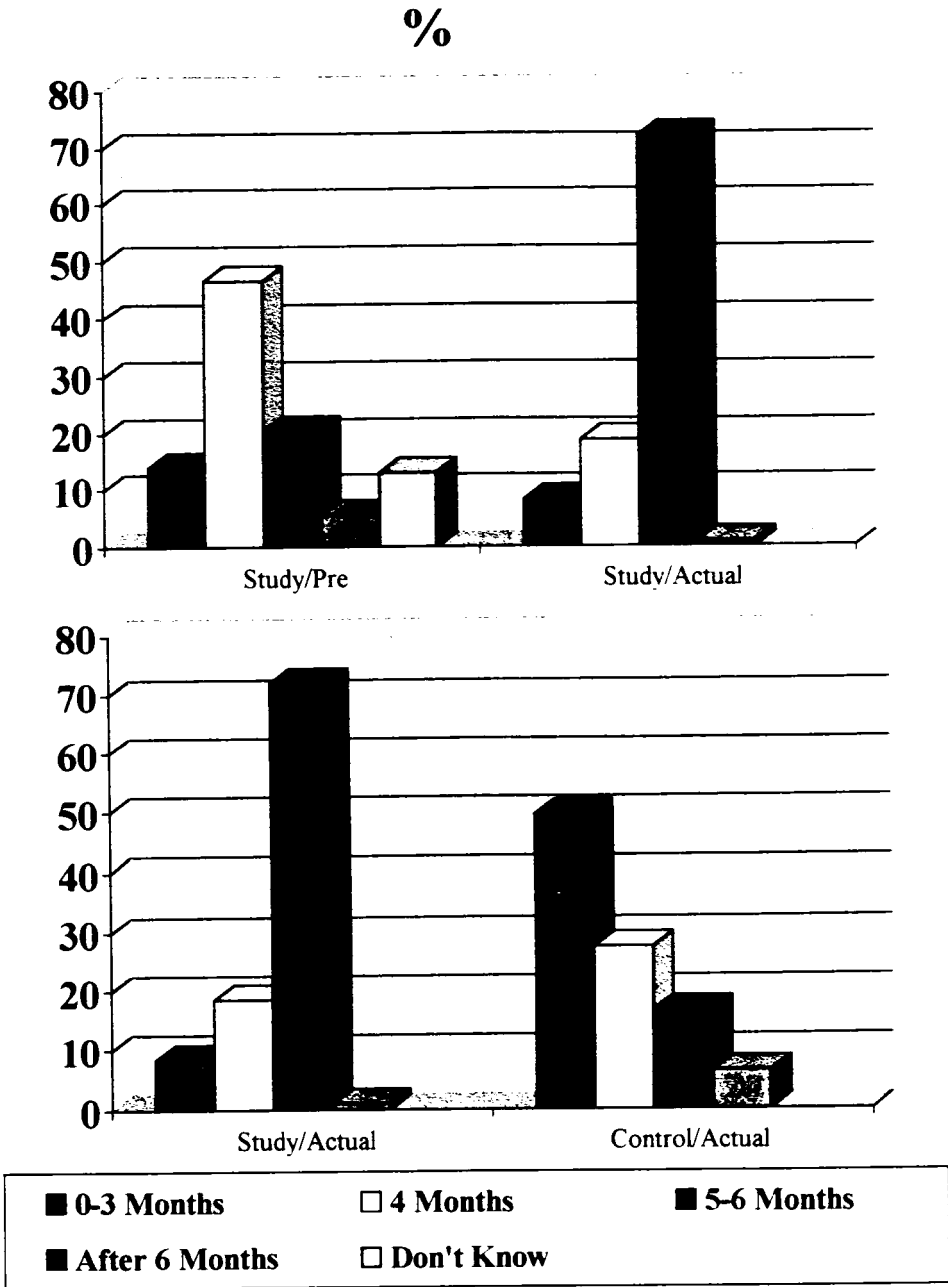


Figure (12)

The reason for early introduction of fluids among most of the mothers in both study and control groups, was either insufficient milk (29.4% of study group & 29.5% of control group) or for treatment of colic (38.2% of study group & 36.4% of control group)

Weaning Practice:

At the end of the study, mothers of both groups (study and control) were asked about when and how they weaned their children. Their answers were rated on a scale of ten. Any answer less than 7 out of 10 was considered incorrect. These results were compared with the prenatal level of knowledge regarding proper weaning practice. Analysis of these data revealed significant improvement in women knowledge and practice. The percentage of women who knew the right weaning practice increased from 26.2% at the pre intervention to 83.2% at the post intervention. Analysis of these results revealed a highly significant difference between the prenatal knowledge and the actual practice of weaning for the study group ($X^2 = 37.29$, $P < 0.0001$). Furthermore, the percentage of women of the study group who have had proper weaning practice is significantly more than those of the control group (83.2% of the study group compared to 21.1% of the control group). The difference between the two groups is also highly significant ($X^2 = 83.34$, $P < 0.00001$) (Table 24) (Fig. 13)

Table 24

Percentage of Proper Weaning, Knowledge (pre) against practice
(post) among Study Group and Their Control

| | Study/Pre(107) | | Study/Post(107) | | Control/Post(109) | |
|--------------|----------------|------|-----------------|------|-------------------|------|
| | n | % | n | % | n | % |
| Correct | 28 | 26.2 | 89 | 83.2 | 23 | 21.1 |
| Incorrect | 44 | 41.1 | 18 | 16.8 | 86 | 78.9 |
| Doesn't Know | 35 | 32.7 | | | | |
| Total | 107 | 100 | 107 | 100 | 109 | 100 |

Difference between study/pre and study/post was highly significant

$$X^2 = 37.29$$

$$P < 0.0001$$

Difference between study/post and control/post was also highly significant

$$X^2 = 83.34$$

$$P < 0.00001$$

Percentage of Proper Weaning, Knowledge against Practice among Study & Their Control

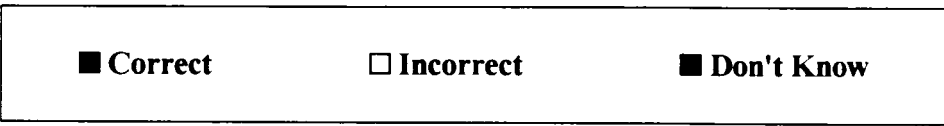
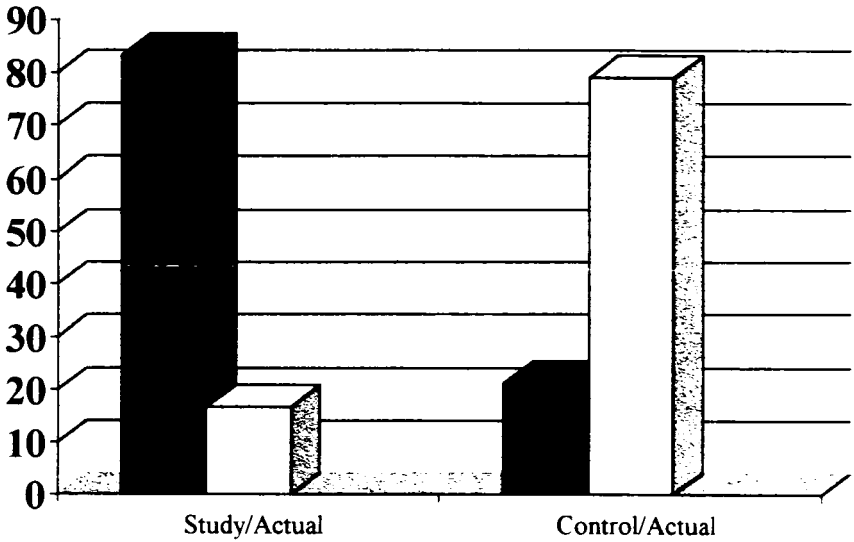
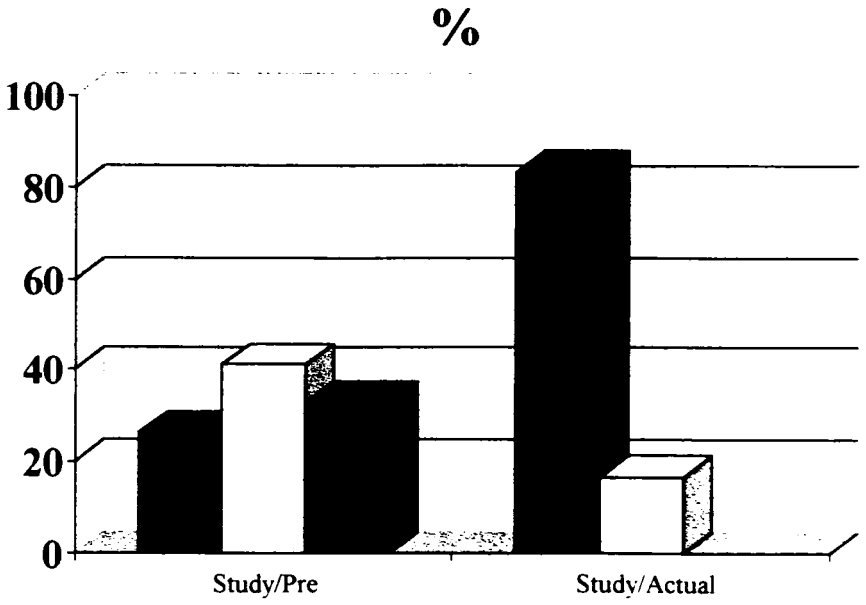


Figure (13)

Relationship between Practice of Proper Weaning and Level of Education:

Further analysis was conducted to find out the relationship between practice of proper weaning (score of ten) and level of education among both study and control groups. This analysis revealed significant difference between study and control groups at all levels of education. (Table 25) (Fig. 14)

Table 25

**Practice of Proper Weaning and Level of Education among
Study and Control Groups**

| Level of education/Score of Proper Weaning | Study Group | Control Group | T Test | P |
|---|-------------|---------------|--------|--------|
| | Mean Score | Mean Score | | |
| Illiterate | 7.6 | 4.6 | 3.3 | <0.001 |
| Primary Edu. | 8.3 | 4.5 | 5.42 | <0.001 |
| Prep. Edu. | 7.4 | 4.5 | 5.25 | <0.001 |
| Second. + | 8.0 | 5.1 | 8.74 | <0.001 |
| Total | 7.8 | 4.8 | 12.2 | <0.001 |

Practice of Proper Weaning and Level of Education among Study & Control Groups

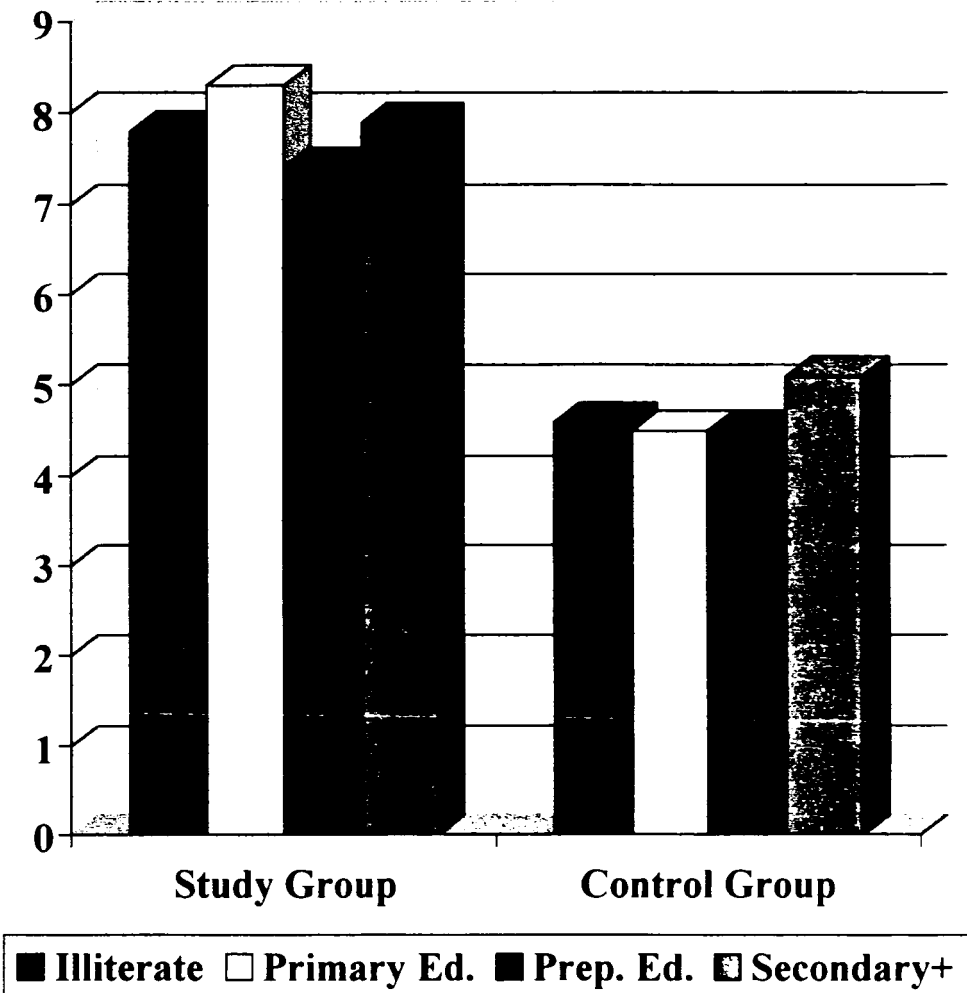


Figure (14)

Infant Growth and Immunization:

The study group has got 60 boys (55.0%), and 49 girls (45.0%) compared to 59 girls (54.1%) and 50 boys (45.9%) for the control group

Growth of infants of the study group was monitored during the study period. Every postnatal visit, both weight and length were measured against the standard growth curve chart (Appendix E). At the end of the study, the **weight** and **length** of the children of both study and control group were recorded and measured against their age using standard growth charts.

Analysis of weight/age for both study and control groups revealed that, at the end of the study, no one of the study group children suffered from malnutrition compared to four children of the control group. In addition, there was an observable difference in percentage of children of both groups with normal weight/age (97.2% of the study group compared to 92.8% of the control group) (Table 26) (Fig. 15).

Furthermore, analysis of height/age for both study and control groups revealed that 89.9% of the study group were in the (-2)-(+2) SD versus 83.5% of the control group were in the same level. (Table 27) (Fig. 16).

Table 26

Weight/Age among Study and Control Groups

| | Study Group(109) | | | | | | Control Group(109) | | | | | |
|--------------|------------------|-------------|-----------|-------------|------------|------------|--------------------|-------------|-----------|-------------|------------|------------|
| | Male | | Female | | Total | | Male | | Female | | Total | |
| | n | % | n | % | n | % | n | % | n | % | n | % |
| <2 SD | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1.8 | 2 | 1.8 | 4 | 3.6 |
| (-2)-(+2) SD | 59 | 54.1 | 47 | 43.1 | 106 | 97.2 | 55 | 50.5 | 46 | 42.3 | 101 | 92.8 |
| >2SD | 0 | 0 | 3 | 2.8 | 3 | 2.8 | 2 | 1.8 | 2 | 1.8 | 4 | 3.6 |
| Total | 59 | 54.1 | 50 | 45.9 | 109 | 100 | 59 | 54.1 | 50 | 45.9 | 109 | 100 |

Weight/Age among Study and Control Groups

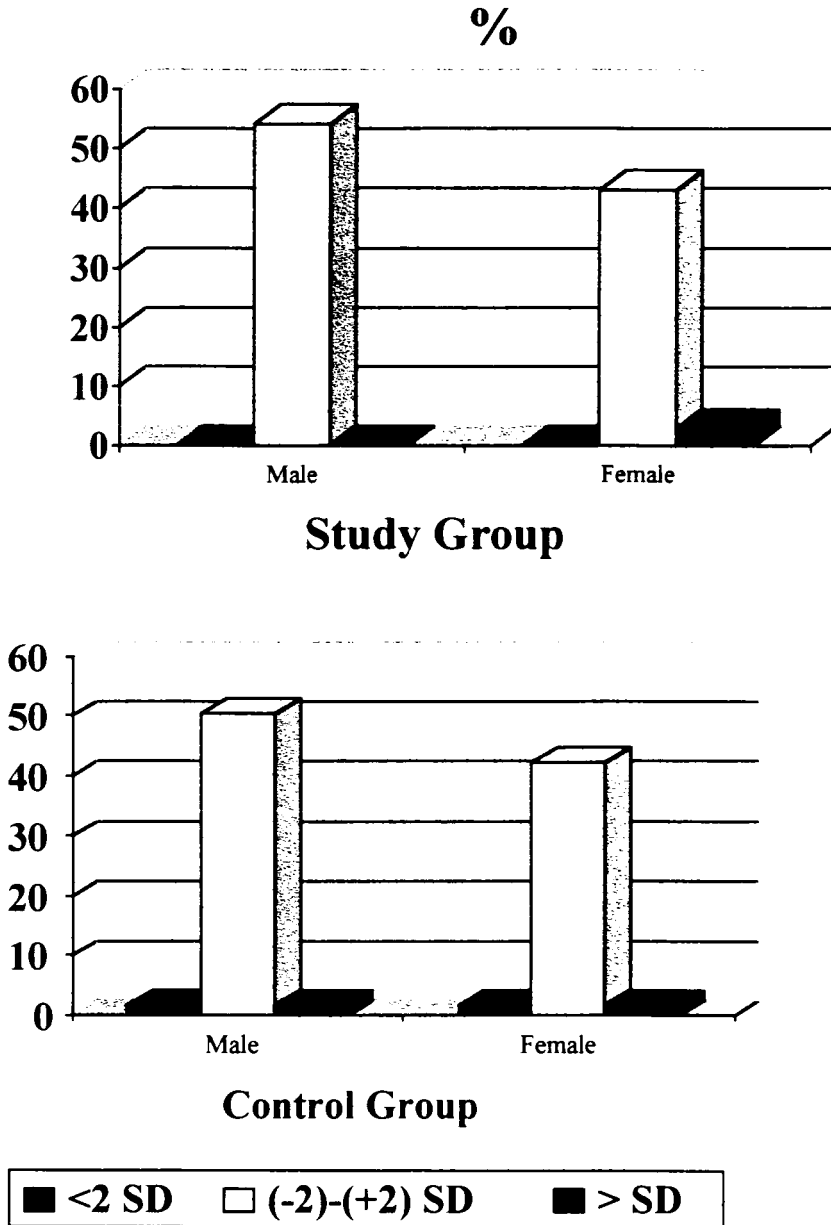
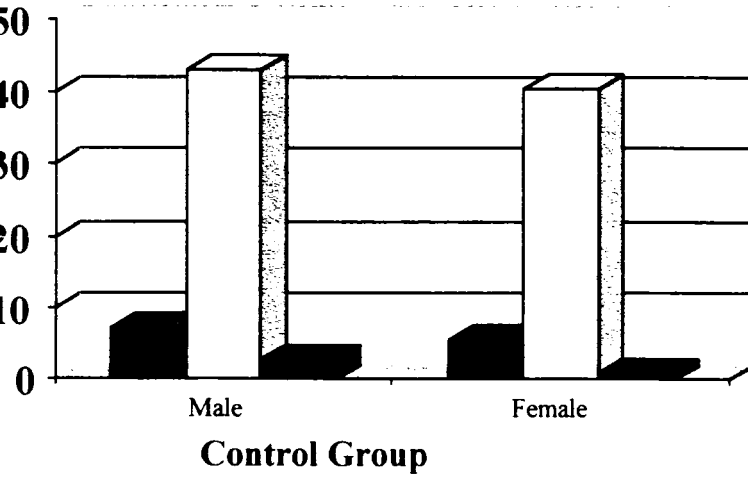
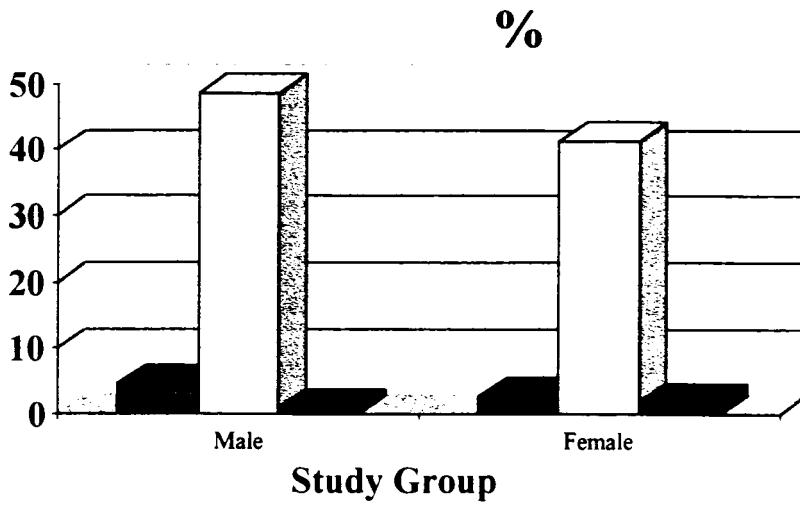


Figure (15)

Table 27**Height/Age among Study and Control Groups**

| | Study Group n=109 | | | | | | Control Group n=109 | | | | | |
|--------------|----------------------|-------------|-----------|-------------|------------|------------|------------------------|-------------|-----------|--------------|------------|------------|
| | Male | | Female | | Total | | Male | | Female | | Total | |
| | n | % | n | % | n | % | n | % | n | % | n | % |
| <2 SD | 5 | 4.6 | 3 | 2.8 | 8 | 7.4 | 8 | 7.3 | 6 | 5.5 | 14 | 12.8 |
| (-2)-(+2) SD | 53 | 48.6 | 45 | 41.3 | 98 | 89.9 | 47 | 43.1 | 44 | 40.4 | 91 | 83.5 |
| >SD | 1 | 0.9 | 2 | 1.8 | 3 | 2.7 | 3 | 2.8 | 1 | 0.9 | 4 | 3.7 |
| Total | 59 | 54.1 | 50 | 45.9 | 109 | 100 | 58 | 53.2 | 51 | 46.80 | 109 | 100 |

Height/Age among Study and Control Groups



<2 SD
 (-2)-(+2) SD
 > SD

Figure (16)

For the study group, age of the child was measured against type of weaning food and growth rate (normal growth was coded as 1, less than normal was coded as 2 and decreasing was coded as 3). Analysis of these data revealed that, by the end of the first three months, all the study group children (100%) had normal growth, 72.5% of them were on exclusive breastfeeding. By the age of four months, those having normal growth decreased to 89.9%. Between the age of six and nine months this percentage decreased to 65.4% and it further decreased to 42.8% after the age of nine months (Table 28)

Table 28
Relationship between, Age of the Child, Growth Rate and
Type of Feeding

| Age Of Child/ Type Of Food | | <4m n= 109 | 4- n=109 | 6- n=107 | 9+ n=91 |
|-------------------------------|---|---------------|-------------|-------------|------------|
| Exclusive B.F. | 1 | 72.5% | 37.6% | | |
| | 2 | | 3.7% | | |
| | 3 | | | | |
| Fluids | 1 | 25.7% | 9.2% | | |
| | 2 | | 0.9% | | |
| | 3 | | | | |
| Solids | 1 | 1.8% | 43.1% | 65.4% | 42.8% |
| | 2 | | 5.5% | 32.7% | 49.5% |
| | 3 | | | 1.9% | 7.7% |

Immunization:

At the end of the study, both groups were asked if their children have got their immunizations on time. In addition the birth certificates were checked for timely immunization of children during their first year of life. Analysis of these data revealed that 95.3% of the study group and 89.9% of the control group have immunized their children on time. There was no significant difference between the two groups ($Z=1.53$, $P>0.05$).

Infant Morbidity during the First Year of Life:

At the end of the study, mothers of both groups were asked about the incidence of diarrhea, cough and vomiting in their children during the first year of life. Analysis of the results revealed that the mean number of **attacks of diarrhea** for the study and control groups were (mean \pm S.D.) 2.7 ± 1.5 and 2.8 ± 2.3 respectively. There was no significant difference between the study and control groups ($t=0.83$, $P>0.05$).

Comparison between children of both study and control groups in relation to the mean number of **vomiting attacks** revealed (mean \pm S.D.) 1.4 ± 1.5 for the study group and 2.0 ± 2.2 for the control group children. There was significant difference between the two groups ($t=2.4$, $P<0.05$).

Finally when children of the two groups were compared regarding the mean number of **attacks of ARI** (Acute Respiratory Infections), it was found that (mean \pm S.D.) was 2.4 ± 1.6 for the children of the study group and 3.2 ± 2.2 for those of the control group. The difference between the two groups was statistically significant ($t=3.089$, $P<0.003$).

Discussion

Discussion

Maternal and child health is now considered as an essential component of the Ministry of Health in Egypt. Child survival policies and strategies are put as priorities in the Egyptian Five-Year Plan.

The infant and child mortality and morbidity in Egypt are still unacceptably high compared to more developed countries. We all need to give more attention to the well-being of our children for the sake of a healthier upcoming youth generation and consequently a better future for our nation.

In terms of the health delivery system, studies are increasingly pointing to the importance of the quality of services available for women. Quality of service includes many elements beyond the technical competence of the provider Brauce et al (1995). prominent among them the nature of the encounter, between the woman and the provider in terms of degree of interaction and information given.

A comprehensive approach to maternal and infant health provision is essential. Special emphasis on quality of care and increased level of mother's knowledge of maternal and infant health issues would affect maternal and infant well-being.

Identifying needs and priorities in health education is a complex process which takes place at many levels, from global and national to the level of local communities, families, small groups and individuals. (Elwes et al, 1985)

Younis et al (1994) in their study conducted in Egypt revealed that, dissatisfaction with the information given during the patient-provider exchange is part of the reason why some women do not utilize available health services. Many health professionals have a patronizing attitude towards women's perception of their health. (Younis et al, 1994)

The present study was conducted during the period March 1996 to August 1997. It was organized in three MCH centers. The study group was recruited from two of these centers; "Morad and Al Mah-kama" MCH centers. Mothers of the third MCH center "Sariaa Al-Koba" served as control for comparative reasons. The main aim of this work was to prove the effectiveness and practicability of implementing a "**Mother Education Program**" under current conditions at the Ministry of Health maternal and child health centers.

Literature review revealed that certain topics are essential in this mother education program. These topics are:

- 1- Mother nutrition during pregnancy and lactation.
- 2- Infant Nutrition:
 - * Breast feeding.
 - * Proper weaning practice.
- 3- Family planning counseling.

To guide training and ensure consistency of content and quality of sessions among various mothers along the study, content materials were developed for mother nutrition (Appendix I), breastfeeding (Appendix J) and proper weaning (Appendix K). In addition, a handout for mothers on proper weaning was developed (included as part of Appendix M).

The three centers included in the study were chosen with the belief that they serve clients of similar socioeconomic standards. Analysis of clients profiles revealed many similarities among the three groups, study group, prenatal control group and postnatal control group. There was no significant difference in age or parity between the study and the prenatal control groups.

On the other hand results revealed significant difference in level of education between the study and control groups. Illiteracy was higher in the study group (35.5%), while secondary school and after was more in the post control group (64.3%). (Table1) This high level of illiteracy of the study group is consistent with the high level of women

illiteracy in Egypt . According to 1995 DHS, 43.7 % of Egyptian women have never attended school. This applies to most of the Arab world countries. (Zurayk, 1994)

The study group mothers attended sessions on mother nutrition during pregnancy, breastfeeding, proper weaning and family planning (please refer to Annex H for lesson plans). Analysis of "number of exposures" to health education messages revealed that, for each mother, the mean number of prenatal visits was 4. (SD= ± 2.3) and for postnatal visits was 14.5 (SD= ± 7.7).

Family Planning:

All couples should have access to information on the importance of responsible family planning and the many advantages of child spacing to avoid pregnancies that are too early, too late, too many or too frequent.

According to Nassar et al (1993) family planning programs in Egypt were found positively correlated with the nutrition status of children. Birth intervals appear to have a significant influence on the health status of mothers and their children. The avoidance of higher order births beside other factors are needed as a means of reducing infant and child mortality. In Egypt, it was argued that short birth intervals, particularly those less than two years was positively associated with higher rates of both morbidity and mortality among women and their children. It is believed that the differences in the nutrition and health status of mothers awareness of birth spacing and birth intervals should be raised as one of the determinants for better health and nutrition status of mothers and children.

Family Planning Information, Education and Communication:

Jato et al (1995), believe that information, education and communication (IEC) stimulate family planning efforts. This can result in effective use of services to achieve desired family planning and reproductive health goals. Communication strategies include mass media, community participation, advocacy, the PRO approach (promoting

professional providers), and client-provider interaction. Effective communication integrated with each of the service elements (i.e. access to services, quality of services and respect of clients) will strengthen the effectiveness of family planning and reproductive health services to satisfy clients' family planning and reproductive health goals.

Over the years, UNFPA have used the information, education, and communication strategy to create awareness about population issues in more than 100 countries. These efforts have proved that multimedia campaigns are the most effective way of increasing public awareness about population and health-related issues.

According to Robey (1994), nearly all Egyptian households have television sets, and 90% of Egyptians watch T.V. regularly. Communication activities, relying largely on television combined with ready access to services, have helped contraceptive prevalence to rise by 17 percentage points between 1984 and 1992, from 30.0 % to 47.0 %.

More recent data from the Egyptian Demographic and Health Survey of 1995 indicated that more than 80 percent watch television daily. One in five women reported exposure to all three media, and only 13 percent had no media exposure. Knowledge of family planning methods and sources is virtually universal among currently married women in Egypt. Broadcasts of information about family planning have wide coverage. More than eight in ten ever-married women had heard a family planning broadcast on television or radio recently. Nearly four in ten women reported that television spots had influenced them to seek more information about family planning. Among the remaining women, the principal source of information was relatives and friends (NPC & MACRO International, 1996)

Along the years, mass media have proved their effectiveness in raising population awareness regarding various health issues. On the other hand, mass media was not as effective in promoting practice. Interpersonal communication (face-to-face communication), followed by counseling, are highly required to pursue proper practice of health education messages in general. This is specially true with family planning

The present study included raising women's awareness and knowledge regarding various family planning methods available at the MCH center. The pre-intervention questionnaire included some baseline information about family planning practice so as to build on the existing knowledge and practices of women under study.

Analysis of the pre-intervention questionnaire data revealed that, television was the main source of knowledge about family planning for both study and control groups (52.3% for the study group and 61.7% for the control group). There was no significant difference between the two groups. (Table 2) (Fig. 1)

The results of the study confirmed that, television is still the main source of general information about family planning. On the other hand method specific messages need more interpersonal communication. The current Ministry of Health policies exercise some interpersonal communication especially in family planning and mother nutrition during pregnancy. The role of health providers, at the MCH center, to provide such counseling services should always be emphasized. Content and quality of messages delivered to clients are also crucial.

The Ministry of Health in cooperation with the United States Agency for International Development (USAID) have jointly produced a very useful flip chart. This flip chart was supposed to be used in women's counseling together with method specific brochures produced and used by the Ministry of health facilities. Unfortunately, the flip chart was not found available at any of the centers. Neither all method specific brochures were available. Availability of counseling materials will certainly help health providers to achieve optimal counseling services.

At the end of this study, exposure to family planning education through interpersonal communication and time of exposure for both study and control group were measured. Analysis of the study group follow-up files, as well as the post-intervention questionnaires for both study and control groups revealed a significant difference in percentage of exposures to interpersonal communication family planning messages. For

the study group 96.3 % (103 women) were exposed compared to 29.4%(32 women) of the control group. This difference was statistically significant. The study group received education both during pregnancy and after delivery at a much higher percentage (56.1%) than the control group (0.9%). The total exposures during pregnancy were also significantly higher in the study group. (Table 4) (Fig. 2)

Family Planning Practice, Use and Non-use :

Users of contraceptive methods among both study and control groups are much higher than the national level recorded by the EDHS. At the time of the post-intervention questionnaire, 72.5 % of the control group were using a contraceptive method. The rate of contraceptive use was even higher in the study group as 85.0 % of women of the study group have used a method by the end of the study period. The difference between the two groups was significant . (Table 5) (Fig 3)

The Egyptian DHS conducted in 1995 indicate that the 48.0 % of currently married women in Egypt are using contraception. This difference between the national rate of contraceptive prevalence and percentage of use among study and control groups could be explained by the fact that clients of MCH centers by nature have more potential to seek family planning than the general population.

When women of both study and control groups were asked about the reasons for not using a family planning method, both groups gave similar reasons. Among these reasons were: the mothers belief that breastfeeding would prevent pregnancy, medical reasons, or husband's refusal.

Reasons for nonuse in the general population are similar to those given by women under study. The 1995 EDHS indicated that the main reasons women gave as reasons for non use were that they want another child, they had health concerns or fear of side effects and some mentioned husband opposition as well.

The EDHS also indicate that, there is considerable potential for increased family planning use. Overall, more than one in six Egyptian women are considered to have an unmet

need for family planning. This group includes; women who are not using family planning but want either to wait two or more years for the next birth (5.0 %) or want no more children (11.0 %). (NPC & MACRO International, 1996)

Family Planning Method Intention and Actual Use:

It is important to have adequate choice of methods. A choice among several modern contraceptive methods for potential clients is essential. Family planning clients have contraceptive method preferences and needs based on individual intentions and goals, different physiological concerns, and different family situations and life styles (Robinson, W. et al, 1995).

The DHS of 1995 stated that there is a shift toward more effective methods, which was evident in the 1980s, continued during the first half of the 1990s although at a slower pace. IUD rose from 28.0 % of married women in 1992 to 30 percent in 1995. In contrast, pill use continued to decline, from 13.0 % in 1992 to 10.0 % in 1995. (NPC & MACRO International, 1996)

At the end of the study, they were asked about the actual method used. Analysis of these results revealed increase in use of sure methods (pills, IUD and injectables), among the study group more than their own intention (72.0 % practice versus 54.2% intention) The difference was statistically significant ($X^2=7.24$ & $P < 0.01$). On the other hand, 63.3% of the control group did use a sure method. The difference between the study and control groups was not statistically significant. ($X^2 = 1.22$, $P > 0.05$) (Tables 7 & 8) (Fig 4 & 5)

When the study group was compared with the control group and the nationally recorded practices in 1995 DHS; the following was concluded.

- IUD practice was highest among the study group (54.2% of users), compared to 49.6% of users of the control group and 30% of users in the EDHS.
- Use of injectables was much higher among the study group (11.2%), compared to 0.9% of the control group and 2.4% of users recorded in the EDHS

The study group showed a higher level of use for both IUD and Injectables. These two methods are considered more efficient than the pill as they have a higher couple years of protection.

The EDHS of 1995 indicated that contraceptive prevalence now is 48.0%. When the results of this study were compared with the DHS, it was found that at the national level most of the current users have chosen the IUD as a contraceptive method 30.0%. On the other hand 10.4% are using the Pill and only 2.4% are using injectables. The total of these sure method users is 42.8%. (NPC & MACRO International, 1996)

The study group was compared with themselves pre and post intervention. It was clear that the mother education program increased the percentage of their use of sure methods, from 54.2% at the pre-intervention to 71.9% at the post-intervention questionnaire. This improvement indicates that when women get the opportunity to receive method specific counseling, they choose more effective contraceptive methods.

From the above we can make the conclusion that higher exposure of the study group to interpersonal communication might explain why they have chosen sure methods more than their own intention prenatally. Furthermore, when they chose sure methods, they have chosen those with more couple years of protection (i.e. IUD and injectables rather than the pill).

Family Planning, Time of Practice:

At the end of the study, both groups were asked about the time they have started using a contraceptive method. The end of the purperium is the optimal time to use a family planning method. Women of the study group had a higher percentage of contraceptive use by that time 75.8% (69 women). On the other hand, 72.2% (57 women) of the control group women have used a contraceptive method by the same time. The difference is not statistically significant ($X^2=1.81$, $P>0.05$) (Table 9)

These results are similar to the EDHS 1995 which indicated that most of the family planning users have started using a method around the six week postpartum.

Family Planning Practice and Level of Education:

Practice of family planning was measured in relation to level of education for both study and control groups. To compare between the two groups, the percentage of practice was measured against the total number of women with a certain level of education (grouped as less than secondary and secondary +). Results revealed that the study group had always higher percentages than the control group but the only significant difference between the study and the control groups was between women who had secondary or more education. $X^2 = 5.11$ and $P = < 0.02$. (Table 10) (Fig 6)

When family planning practice of a sure method (Pills, IUDs and Injectables) was measured according to level of education for both study and control groups. Analysis of the results revealed that all levels of education of the study group had higher percentages of use than their corresponding levels of education of the control group. Although all levels of education showed an observable difference, the only significant difference was between the illiterate women of the two groups ($X^2 = 11.49$, $P = < 0.01$) (Table 11) (Fig. 7)

Family planning practice was higher among more educated women of the control group. For the study group increased practice was not related to level of education. (Table 10) (Fig 6).

Generally speaking, there is a positive relationship between the level of the woman's education and her practice of family planning. On the other hand, this present study indicated that intensive family planning counseling can overcome the problem of low practice of contraceptives among illiterate women.

According to Fouad (1994), women's role in reducing family size is affected by their level of education. Well educated women tend to choose suitable husbands with the same higher level of education. The mean number of children ever born to couples with

higher education is less than couples with less or no education. Encouraging women to reach the higher levels of education leads to smaller families.

Mean Number of Desired Children:

Measurement of the mean number of desired children for mothers of both study and control groups revealed that the study group mothers wanted a mean number of 2.25 child. The control group mothers wanted a mean number of 2.66 child. The difference between the two groups was not statistically significant (Page 188). In fact they are both much less than the current level of fertility in Egypt. According to EDHS 1995 fertility in Egypt has declined steadily from over 5 births per woman in the early 1980s to 3.6 births at the time of the EDHS of 1995.

Great progress have been achieved so far. According to (NPC, 1994), in 1960 the rate of contraceptive use in Egypt was 10.0%. the Egyptian family had an average of seven children and the population was 25 Million.

Toward a strengthened program, the NPC believes that countries should reach the replacement level (Where the average number of children per family should not exceed two children) and stop population explosion to the extent at which the country can provide its people with a descent socioeconomic standard. Egypt can reach this replacement level in the year 2013 if the rate of contraceptive use increases to 70.0% and accordingly fertility drops to 2 children per family. If this target is achieved Egypt's population then would be 73 instead of 92 Million.

Breastfeeding and Weaning:

Breast milk can and should provide almost all the nutritional requirements for the growing infant up to the age of six months. Even in the second year of life, it can be an important supplement of nutrients, including protein, fatty acids, vitamins and calories. (Kleinman & Senanayake, 1984)

Prior Breastfeeding Experience:

Breast feeding remains the norm in Egypt, with more than 90.0% of all mothers initiating lactation. On the other hand, according to the Egyptian Demographic and Health Survey (EDHS) of 1995, Supplements other than plain water are introduced for many Egyptian children at an early age. One in five children less than two months of age is given supplements other than water, and the proportion receiving such supplements increases rapidly to 76.0% among children 6-7 months of age. (MACRO International, 1995)

Furthermore, and according to (UNICEF, 1993), there is clear evidence of the poor knowledge about the benefits related to the mother, child spacing and bonding. Therefore, emphasis during educational campaigns on benefits of breastfeeding should be highlighted. (UNICEF, 1993)

At the beginning of this study, when both study and control groups were asked about their prior experience with breastfeeding, their answers were not significantly different. For the study group 62 women were multiparas; 96.8% of them had prior experience with breastfeeding. Likewise, 71 women of the control group were multiparas. 85.9% of them had prior experience with breastfeeding. Average period of prior breastfeeding experience was 15 months for both study and control groups.

A study conducted by El-Sayed (1997) on patterns of breastfeeding in Egypt, concluded very similar results as 95.5% of multiparas had previous experience with breastfeeding.

Intention, Ever Practice and Continuity of Breastfeeding:

Prenatal intentions of breastfeeding in Egypt are usually very good. All mothers plan to breastfeed regardless of cited causes for this intention. This strong intention persists for at least six months after delivery for those who try well enough at the early postnatal period. Unfortunately, this strong well usually ceases afterwards. (El-Sayed, 1997), has found out that, breastfeeding was practiced by 96.4% of mothers in the first six

months of life. This prevalence decreased from 98.4% in the first 2 months of life to 94.8% in the age of four months and 93.8% at age of six months.

When mothers under this study were asked prenatally about their intention to breastfeed their upcoming newborns, almost all mothers, of both study (98.1%) and control groups (96.1%) , said that they intend to breast feed their infants. The mothers who didn't say yes answered "I don't know or it depends if I will have milk or not".

At the post intervention questionnaire, 0.9% of the study groups (only one mother) compared to 4.6 % of the control groups (five mothers) didn't breastfeed at all.(Page 188)

In addition, at the end of the study, the mean age of children of the study group was 10.7 months and of the control group was 9.1 months. Both groups were asked if they were still breastfeeding. Results revealed that mothers of the study groups continued to breastfeed for longer periods than the control group . At the end of the study period, 87.9% of the study group versus 78.0% of the control group were still breastfeeding.

Initiation of Breastfeeding:

Worthington et al (1981) mentioned that the best time for the first feeding, providing that mother and baby are physically able, is within half hour after birth. This can even be accomplished on the delivery table. The sucking reflex is strongest 20 to 30 minutes after birth and that if the infant is not fed at this time, the vigorous sucking reflex diminishes and does not return until the end of the second day of life.

Hossain et al (1995) believe that recent data on the patterns and correlates of the timing of breastfeeding initiation in newborns are scanty for many countries including Egypt. They conducted a study to investigate the timing of breastfeeding initiation and its correlates in a cohort of rural Egyptian infants. Their study revealed that, breastfeeding initiation appears to be unduly delayed in the study group, given that the mother and infants were apparently healthy during the early post-partum period. Later initiation of breastfeeding was associated with indiscriminate prelacteal feeding, earlier termination

of breastfeeding, and unwelcome supplementation practices. Their findings emphasize the need to initiate and/or strengthen programs to promote appropriate breastfeeding practices.

The first few days after labor are considered crucial, when the milk is formulating, the mother is at recovery stage from labor stress. In addition, she is worried about her ability to breast feed and to be a good fulfilling mother. These first few days will decide the faith of breast feeding. If there is a good start, most probably breastfeeding will continue satisfactorily and without major problems for both mother and child. On the other hand, little stress or obstacles could have adverse negative effects on breast feeding. Preparing the mother to successfully breast feed should start before delivery through one-to-one as well as group discussions in the MCH clinic. These discussions will help her build a positive attitude towards breast feeding (بدر هيبه ، ١٩٨١)

At the end of the present study, when both groups were asked about when they actually initiated breast feeding. Answers revealed significant difference between the two groups as 33.0 % of the study group versus 12.0 % of the control group have started breastfeeding by the first half hour after delivery. The difference between the two groups was significant statistically ($X^2=13.49$, $P < 0.0002$) (Table 16) (Fig 9)

In Egypt, the Ministry of Health in cooperation with UNICEF and WHO have established a breastfeeding policy. The Egyptian national policy promotes and supports breastfeeding through the implementation of the 10 steps of the joint WHO/UNICEF statement for successful breastfeeding in the "Baby Friendly Hospital Initiative" (UNICEF & WHO, 1993). The Egyptian policy also calls for:

1. Early exclusive breastfeeding from birth up to 4 to 6 months with continued breastfeeding, and introduction of other foods, for two years. It is crucial to note that pro lacteals interfere with initiation and maintenance of breastfeeding and that there are a few conditions in which supplementary feeds are considered
2. Adequate orientation of health professionals and provision of health education to women concerning benefits and management of breastfeeding
3. Prohibition of use of bottles, teats and pacifiers from birth onwards

4. Establishment of breastfeeding support system within communities using family members, health care providers, key women leaders and non-governmental organizations.

All studies have indicated that mothers intention to breastfeed is almost universal among Egyptian women. In addition most of those mothers do initiate breastfeeding after delivery. If this strong intention and initiation supported with strong technical support from health providers (pre and postnatally) in addition to emotional support from family and community , the chances for more continuity and success of exclusive breastfeeding might be higher.

Knowledge of Benefits of Breastfeeding:

Multi-Center BFHI Studies conducted in 1993 showed a significant lack of mothers knowledge towards the benefits of breastfeeding and the use of bottles, decoctions and supplementary feeding before 4 months of age. Illiteracy rates were very high in such mothers and most of them were non-working mothers. In addition, the study noted poor mother's knowledge about benefits of breastfeeding together with the poor attitudes and practices related to exclusive breastfeeding and weaning. (UNICEF & WHO, 1993)

The Egyptian policy for promotion of breast feeding necessitates that all pregnant women should be informed about the benefits and management of breastfeeding. This could be achieved through:

1-Emotional and physical preparation of mothers for breastfeeding during pregnancy.

This approach will ensure successful lactation.

2-All mothers and mothers-to-be should be made aware of the factors and practices that help successful breastfeeding

3-Breastfeeding ensures a healthy baby and mother.

4-Bottle feeding may lead to serious illness and increase the infant mortality rate.

(MOH & UNICEF, 1992)

A study conducted by El-Sayed (1997) have found that only 40.2% of women who received ante-natal care had received health education about breastfeeding and when investigated mothers knowledge of benefits of breastfeeding, 50.0% of mothers reported two benefits. The remaining mentioned only one benefit.

At the end of the present study, both study and control groups were asked about their knowledge of benefits of breastfeeding. Analysis of results revealed significant difference between study and control groups; 74.8% of the study group knew at least three benefits for breastfeeding. On the other hand, only 3.7% of the control group knew such number of benefits. (Table 14) (Fig. 8)

Furthermore, when the results were compared by the basic level of knowledge of the study group (Pre-Intervention) there were significant differences between both pre and post knowledge of the study group ($t=17.58, P<0.0001$). In addition, there was also significant difference between the study and control groups ($t=2, P<0.0001$)

Exclusiveness of Breastfeeding:

UNICEF's regime indicates that breast milk should be the exclusive food for four to six months, after which safe, suitable supplements should be added for up to two years to prevent growth faltering.

Whitehead (1995) documents UNICEF and WHO's regimes which support exclusive breastfeeding for the first 4-6 months. In his study he confirms this recommendation. Based on field research, his research findings in infant dietary energy requirements have provided a firm quantitative basis for the widely quoted pediatric view that exclusive breastfeeding should provide sufficient nourishment for the average child until 4-6 months of age.

The Multi-Center BFHI study conducted by UNICEF & WHO in 1993 concluded that, exclusive breast feeding in its literal meaning (according to WHO/UNICEF) does not seem to exist in Egypt especially that some decoctions, are considered necessary by health workers and are given for the relief of colic, to calm the baby or as extra fluids

during an acute respiratory tract infections (ARI). Yansoun, Caraway, etc. are commonly used for these purposes in infants less than 4 months and they are commonly prescribed by doctors. There is clear evidence of the poor knowledge about the benefits related to the mother, child spacing and bonding. Therefore, emphasis during educational campaigns on benefits of breastfeeding should be highlighted.

According to EDHS 1995, Supplements other than plain water are introduced for many Egyptian children at an early age. One in five children less than two months of age is given supplements other than water, and the proportion receiving such supplements increases rapidly to 76.0% among children 6-7 months of age.

Mothers who are not confident that they have enough breast-milk often give their babies other foods or drinks in the first few months of life. But this means that the baby sucks at the breast less often. So less breast-milk is produced. To stop this happening, mothers need to be reassured that they can feed their young babies properly with breast-milk alone.

El-Sayed Conducted a study in (1997) to identify patterns of breastfeeding in the first six months among attendants of MCH centers in Cairo. Her study revealed that exclusive breastfeeding sharply decreased from 61.2% at the age of less than 2 months to 41.1% at the age of 2 months with little decrease to 38.4% at the age of four months. It showed another sharp decrease to 24.6% at the age of 6 months. Among the exclusive group 72.0% initiated breastfeeding within 2 hours after birth compared to 65.4% of the supplemented group. Late initiation was practiced by only 4% of the exclusive group compared with 18.3% of the supplemented group.

The present study included exclusive breastfeeding as one of the main messages given continuously to mothers of the study group at the prenatal period and during the first 4 to 6 months after delivery. Exclusive breastfeeding meant nothing is given to the baby (not even water) but breast milk. Along the study period, mothers were asked if they were still exclusively breastfeeding. At the end of the study period, analysis of results revealed a significant difference between the study and control groups regarding

exclusive breastfeeding during the first 4 months; 70 mothers of the study group (65.4%) versus 23 of the control group (21.1%). During the first 6 months 37 mothers of the study group (34.6%) versus only 8 of the control group (7.3%) were exclusively breastfeeding. In addition, 8 mothers of the control group (compared to 2 mothers of the study group) continued to exclusively breastfeed their children after the age of six months. (Table 17) (Fig 10) Introduction of weaning food is recommended by the age of six months. Breast milk alone could not satisfy the requirements of the infant after this age.

These results added to previous studies lead to the conclusion that although exclusive breastfeeding does not currently exist much in Egypt, mothers are ready to undertake this practice if they receive appropriate knowledge and get continuous technical and emotional support both pre and post natally.

Weaning:

Weaning is a gradual replacement of breastmilk with another food until it finally leads to cessation of breast milk. Weaning is a vulnerable period in an infant's life during which the child is still growing rapidly and just about to run out of maternal protective antibodies. The age of 4 to 5 months, is suitable for beginning of weaning. Earlier introduction of solid food causes mal-digestion, diarrhea and food allergies. During this period there is most often combination of infection and dietary inadequacy often leading to PEM (Protein Energy Malnutrition) which characterizes this period. (Al-Gebaly, H., 1993), Her study among Egyptian women concluded that weaning food is affected by the socio-economic state, educational level of parents and mother's work. At the end of her study she recommends that weaning should be gradual and should not interfere with breastfeeding capacity.

At the pre-intervention, both study and control groups were asked about their background knowledge regarding weaning. They were asked about the proper time to start weaning and what are the proper kinds of food used for weaning. Answers revealed that most of mother of both groups believed that weaning should start at the

age of 4 months or before. There was no difference between the two groups regarding time to start weaning (66.3% of the study group and 66.1% of the control group). (Table 20)

Results of questions related to the proper food used for weaning revealed that many mothers don't have the right information regarding proper weaning (41.1 % of the study group and 69.9% of the control group) (Table 21)

When both study and control groups were asked at the pre intervention about the proper time to stop breastfeeding most of them answered that two years is the right age for complete weaning (65.4%, 72.2% respectively).

According to Bax et al (1990), introduction of solid foods before the age of three months has no proven nutritional advantage and evidence suggests that it may predispose to the development of obesity and allergy and increase the risk of hypernatraemia due to high solute load.

The World Health Organization and UNICEF currently recommend to start weaning between four and six months and no later than six months with the gradual introduction of solid food. However, some studies show that voluntary exclusive breastfeeding for about nine months is feasible and can sustain adequate weight gain and iron status in infants. Borresen believes that in developing countries, health authorities and non-governmental organizations should actively endorse exclusive breastfeeding for eight to nine months to protect infants against malnutrition and infections (Borresen, H., 1995)

Furthermore, UNICEF and WHO policies are built on the fact that, before the age of four months, breastfed babies do not need any juices, herbal drinks or water, as breast milk contains enough water and vitamins. Complementary food should be added only after 4 months and not later than 7 months, starting with small amounts and increased gradually. The food should be offered by spoon and drinks by cup. (MOH, 1992)

A small scale study conducted by Kassem (1988) has found that attitudes of mothers towards the duration of breastfeeding, onset of weaning and types of supplementary foods are markedly influenced by local customs and cultural and religious beliefs prevalent in the community. Modern life style, socioeconomic standard and community development, urbanization, mother education and employment have all affected the weaning process.

El-Sayed (1997), study in MCH centers in Egypt, have found out that type of supplementation given to infants was herbal tea and juices at <2 months age for 64.3%. At the age of 2 months the liquids continued to be the most common type of supplements, 44.4%, then semisolids 36.1% and infant formula 16.7%. At the age of four months, semisolids were the most common type 79.5%. At the age of six months semisolids became the most common supplementary food (80.0%).

In addition, she found out that on demand feeding was practiced by 98% of the exclusive group compared to 79.8% of the supplemented group. Reason of supplementation was mainly insufficient milk.

At the end of the present study, both study and control groups were asked about the time they actually introduced both fluids and solids in their infants feeding. The answers of these questions were found significantly different between the study and control groups. Regarding introduction of fluids, 82.6% of the control group versus 27.2% of the study group have introduced fluids at less than four months age (Table 22) (Fig 11)

On the other hand 49.5% of the control group versus only 8.4% of the study group have introduced solids at an age less than four months. (Table 23) (Fig12). The reason for early introduction of fluids among most of the mothers in both study and control groups, was either insufficient milk (29.4% of study group & 29.5% of control group) or for treatment of colic (38.2% of study group & 36.4 % of control group).

At the post-intervention, mothers were asked about when and how they weaned their children. Their answers were rated on a scale of ten. These results were compared with

the prenatal level of knowledge regarding proper weaning practice. Any answer less than 7 out of 10 was considered incorrect. Analysis of these data revealed significant improvement in women knowledge and practice. The percentage of women who know the right weaning practice increased from 26.2% at the pre intervention to 83.2% at the post intervention. The percentage of women of the study group who have had proper weaning practice is significantly more than those of the control group (83.2% of the study group compared to 21.1% of the control group). (Table 24) (Fig. 13)

Exclusive breastfeeding is common but not universal in early infancy in Egypt. Among infants under two months of age, 78.0% receive only breastmilk. The proportion exclusively breastfed then drops off to 60.0 % among children 2-3 months of age and 31.0 % among children 4-5 months. (DHS, 1995)

It is clear that proper mother education can improve both mother knowledge and practice of breastfeeding and weaning. Building a positive attitude towards exclusive breastfeeding among health providers is a prerequisite for a better breastfeeding experience for Egyptian mothers and children.

Infant Growth and Development:

Exclusive breast-feeding is ideal for four months, but growth faltering may then occur unless safe, suitable supplements are added to breast-feeding thereafter. Occasionally, growth faltering occurs before four months if the volume of breast-milk supplied is inadequate- hence the need for growth monitoring. (UNICEF & WHO, 1992)

Growth monitoring is very important for children. The purpose of monitoring growth is to ensure that the child is growing well and any slowing of growth is detected and dealt with early. The most commonly used measure for growth monitoring is the weight for age because it is very sensitive measure of growth and measurement can be easily made, so high level of accuracy is possible. The Child Survival Project Physician Training Manual explains how physicians can follow-up infant and child growth through use of international standardized growth curve. (MOH, 1990)

Studies conducted in Egypt by Nassar et al (1993) have found maternal education level independent of household income, to be positively related to better nutrition status of children and to lower infant mortality.

The study group has got 60 boys (55.0%), and 49 girls (45.0%) compared to 59 girls (54.1%), and 50 boys (45.9%) of the control group. Growth of infants of the study group was monitored during the study period and measured against the standard growth curve chart. At the end of the study, the weight and length of the children of both study and control group were recorded and measured against their age using standard growth charts. Analysis of the study results revealed that none of the study group children was underweight at the time of the post intervention questionnaire. In comparison, 3.6% of the control group were under weight. (Table 26) (Fig. 15)

Analysis of height -for-age revealed that 7.4% of the study group were stunted and 12.8% of the control group were among the same category. (Table 27) (Fig. 16)

The EDHS conducted in 1995 indicated that 2.8% of below 6 months were undernourished. Furthermore this percentage increased to 21.8% for children 6 to 11 months old.

Measurement of height for age in EDHS 1995 indicated that 6.7 % of children less than 6 months old were stunted. In addition 27.9% of children aged between 6 and 11 months were stunted.

At the end of this study and for the study group, age of the child was measured against type of weaning food and growth rate (normal coded as 1, less than normal coded as 2 and decreasing coded as 3). Analysis of these data revealed that by the end of the first three months, all the study group children (100%) had normal growth, 72.5% of them were on exclusive breastfeeding. By the age of four months, those having normal growth decreased to 89.9%. Between the age of six and nine months this percentage decreased to 65.4% and it further decreased to 42.8% after the age of nine months.

These data indicate the necessity of continuous follow-up of those children during the critical time of weaning and up to complete weaning at the age of two.

Immunization:

At the end of the study, both groups were asked if their children has got their immunizations on time. In addition the birth certificates were checked for timely immunization of children during their first year of life. Analysis of the results revealed that 95.3% of the study group and 89.9% of the control group have immunized their children on time.

The 1995 EDHS indicated that 70.6 % of children 12 months old have got all their immunizations required for the first year of life.

This indicates that continuous follow-up of mothers and children can also improve immunization coverage as well timely immunization.

Infants Morbidity During the First Year of Life:

At the end of the study, mothers of both groups were asked about the incidence of diarrhea, cough and vomiting in their children up to the day of the post intervention questionnaire. Analysis of the results revealed that the mean number of attacks of diarrhea for the study and control groups were 2.7 (SD \pm 1.5) and 2.8 (SD \pm 2.3) respectively. There was no significant difference between the study and control groups.

According to 1995 EDHS 19.0 % of children under 6 months had diarrhea at some time during the two-week period before the survey. Furthermore, 31.8% of children between the age of 6 to 11 months had diarrhea during the same period. Considering the variation in diarrheal prevalence, children 6-23 months are more likely to have had diarrhea than older or younger children.

At the end of the present study, The mean number of vomiting attacks for the study group children was 1.4 (SD \pm 1.5) and 2.0 (SD \pm 2.2) for the control group children. Again there was no significant difference between the two groups. On the other hand, the mean number of attacks of ARI (Acute Respiratory Infections) was 2.4 (SD \pm 1.6) for the children of the study group and 3.2 (SD \pm 2.2) for those of the control group. The difference between the two groups was statistically significant (2-Tail sig = 0.003).

The DHS of 1995 revealed that 19.8% of children less than 6 months old had acute respiratory infection (ARI) at some time during the two-week period before the survey. Furthermore, 30.0% of children between the age of 6 to 11 months had ARI during the same period.

Although results of the DHS are not directly comparable to this study but we can still make the conclusion that prevalence of diarrhea and ARI is high during the first year of life and is usually more evident in the second half of this year when usually the child is starting weaning and is more vulnerable to infection.

On the other hand, we can also conclude that raising mothers' awareness can make a difference in prevalence of ARI which currently constitutes a major risk factor and primary cause of infant mortality in Egypt.

Conclusions

Conclusions

- * T.V. is considered the main source of general information about family planning in Egypt. On the other hand, women lacked method specific information that needs more interpersonal communication.

- * Many women have intention to use a family planning method. Somehow they do not practice, either due to the belief that breastfeeding can be an effective contraceptive method or due to their concerns about the IUD; which is the best available method suitable for breastfeeding women..

- * Use of sure methods of family planning like IUD, Pill and injectables can be increased through pre and post natal counseling.

- * When women are exposed to intensive interpersonal communication in family planning, they tend to use more effective contraceptive methods and start using such method at the proper time.

- * Although the level of illiteracy among women is considered very high (44%), effective mother education through person-to-person communication can overcome such obstacle and increase their understanding of various mother and infant health issues.

- * Pregnant women show a strong intention to breastfeed. Most of them actually initiate breastfeeding. On the other hand, many mothers do not exclusively breastfeed and start introducing fluids and solids too early into their infants' meals. All studies have indicated that mother's intention to breastfeed is almost universal among Egyptian women. If this strong intention is supported with strong technical support from health providers and emotional support from family and community, the chances for continuity and success of exclusive breastfeeding will be bigger.
- * Many women lack necessary knowledge about breastfeeding, e.g. knowledge of its various benefits. In addition, many mothers lack the assurance and support to exclusively breastfeed their infants.
- * Health providers need to increase their knowledge and experience in the art and technique of successful breast feeding. Physicians working in primary health care units should be familiar with the potential problems of various contraceptive methods. Should be able to advise users to solve these problems with preservation and support of breastfeeding. There is definitely a great need for training of physicians and nurses on breastfeeding support. In addition, development of health education skills for improved mother/health staff communication is necessary.
- * Proper mother education can improve both mother knowledge and practice of breastfeeding and weaning. Building a positive attitude towards exclusive breastfeeding among health providers is a prerequisite for a better breastfeeding experience for Egyptian mothers and children.

- * Successful programmatic efforts to increase the incidence and duration of breastfeeding should include hospital based program, health professional training and mass media campaigns.
- * Attention should be given to development of high quality nutrition education materials and programs for children as well as adults.
- * Well-designed information, education and communication campaigns can greatly affect the prevalence and duration of breastfeeding. Such efforts can educate and motivate mothers, health care providers, community leaders and national policy-makers. This could be achieved through presentation of the benefits of breastfeeding and discourage the early introduction of unnecessary supplements. Radio, television, newspapers, magazines and even comic books have been used successfully to promote breastfeeding.
- * Continuous growth monitoring of children during the first year of life is crucial. This follow-up of children during the critical time of weaning will decrease prevalence of undernutrition and stunted growth among this age group.
- * Raising mothers' awareness can make a difference in prevalence of ARI that currently constitutes a major risk factor and primary cause of infant mortality in Egypt.

Recommendations

Recommendations

Health Education:

- 1-Mothers should be encouraged to initiate breastfeeding immediately after birth and to exclusively breastfeed their children for 4-6 month combined with continuous growth monitoring. Many mothers lack confidence in their own ability to breastfeed. They need encouragement and practical support of fathers, health workers, relatives, friends, women groups, the mass media, trade unions and employers.
- 2-Mass media and counseling at the MCH centers should increase messages specific to child growth and well-being .
- 3-Exclusive breastfeeding should be promoted through all means of information, Education and communication; both mass media and interpersonal communication activities. All mothers, health providers, community and advocacy groups should be presented with benefits of breastfeeding and hazards of early introduction of supplements. Radio, television, newspapers and magazines can be used for that purpose. These promotional activities should aim at increasing level of knowledge and practice of proper breastfeeding and weaning among Egyptian mothers.
- 4-A commitment should be made to a long-range communication strategy, which, whenever possible, links breastfeeding promotion to direct support of mothers and to other maternal and child health programs. including nutrition, diarrhoeal disease control, family planning and growth monitoring
- 5-Integration of prenatal and postnatal follow-up for both mother and newborn is essential. This could be achieved through an effective referral

system between various divisions of the MCH center; among which are, prenatal services, tetanus immunization, delivery services and pediatric services. They all need to view mother and infant as an integral body during pregnancy and through the first year of infant life.

6-There is a great need to increase mothers awareness on prevention and management of ARI. Mass media can play a significant role towards this goal.

7-To complement interpersonal communication activities at the MCH, adequate health education materials and aids should be available at the MCH center. The MCH center should be able to reach out for pregnant mothers with support and reinforcement with educational and audiovisual materials and media.

Training of Health Providers:

1-Training of health service providers is essential. They need communicate effectively with their clients regarding various health education messages. They also need to be better informed about proper management of breastfeeding and its potential problems. Breastfeeding should be taught properly to all the medical students, nurses and graduated doctors. Breastfeeding promotion should be continued and supported by all means, both by the medical and paramedical personnel, the government and mass media. Better education about breastfeeding and infant nutrition should be provided in the curriculum of physicians and nurses.

2-Family planning providers should be more aware of the needs of a lactating mother and accordingly provide her with the proper support and counseling.

3-Continuous growth monitoring of children is crucial specially during the first year of life when weaning starts and the child is most vulnerable to malnutrition and infections. This could be achieved through encouraging mothers to come to the pediatric section of the MCH center for periodic visits. Otherwise this follow-up could be done at the same time of the child's immunization.

Summary

Summary

Introduction and Problem Definition:

Maternal health, nutrition and education are important for the survival and well-being of women in their own right and are key determinants of the health and well-being of the child in early infancy.

Today's children are the citizens of tomorrow's world, their survival, protection and optimal development are the prerequisite for the future development of humanity.

According to the Egyptian Demographic and Health Survey (EDHS) conducted in 1995, infant mortality is as high as 63/1000 births, and neonatal mortality rate is 30/1000 births. This indicates that more than three-quarters of early childhood deaths in Egypt take place before a child's first birthday.

UNICEF's studies indicated that birth spacing and exclusive breastfeeding for the first 4-6 months would dramatically decrease both infant mortality and morbidity in developing countries. In recognition of these facts, maternal and child health (MCH) and family planning are identified as priority areas under the current Egyptian health policies and five year plan.

Hypothesis:

Child survival is closely linked to the timing, spacing and number of births his mother had. Another factor directly relates to child survival is exclusive breastfeeding for the first four to six months. Furthermore, continuous growth monitoring of the child during the first year of life would help early prevention of disease and malnutrition.

Mother's awareness of these concepts; family planning, breastfeeding and infant nutrition, in an integrated manner, will help promote infant growth and development and accordingly decrease current high levels of infant mortality and morbidity in Egypt.

The main aim of this study is to examine the effectiveness and practicability of implementing a **"Mother Education Program"** under current conditions at the Ministry of Health maternal and child health centers and accordingly examine its impact on mother knowledge and practice of family planning, breastfeeding and weaning.

Study Methodology and Tools:

The study was conducted, during the period March 1996 to August 1997, in two MCH centers while a third center served as control. Study and control groups were exposed to pre intervention and post intervention questionnaires.

After completion of the pre-intervention questionnaire for both study and control groups,(190 women for the study group and 133 for the control one), a file was opened for each woman of the study group. The file contained a prenatal follow-up sheet, a post-natal follow-up sheet and a growth monitoring sheet. In addition, each woman was given a take home card to record follow-up data related to both the mother and her child.

The intervention plan was to implement a mother education program and follow-up one hundred women from the third trimester of pregnancy through the period of 6 to 12 months of their infant's life. This educational program was specially designed for this study and was supported by already existing educational and counseling materials from the Ministry of Health, the National Population Council as well as International donors like WHO, UNICEF and USAID; Child survival and family planning programs. The main topics, included in the mother education program, were mother nutrition during pregnancy, family planning, breastfeeding and proper weaning. The study examined the practicability and impact of this comprehensive educational program on the mother level of knowledge and practice of family planning, breastfeeding and proper weaning.

At the end of the study, a post-intervention questionnaire was administered for both study and control groups. In addition, children of the two groups were weighed and measured.

Results:

Comparison between pre-intervention and post-intervention questionnaires for both study and control groups in addition to analysis of the follow-up sheets (for the study group) revealed the following:

- Analysis of results revealed significant difference in level of education between the study group and control groups, illiteracy was highest in the study group, while secondary school was more in the control group.
- Mothers' of the study group had much more exposure to interpersonal communication in family planning, than the control group; 96.3% versus 29.3 % ($X^2= 103.12, P= <0.00001$).
- There was significant difference between the study and control groups in family planning practice (85.0 % of the study group versus 79.0 % of the control group) There was also no difference between the two groups in second pregnancy
- For both study and control groups, IUD was the most commonly used contraceptive method. Injectables were more used by the study group; while pills were more used by the control group
- When the study group's actual use of sure methods (pills, IUD and injectables) of family planning was compared with their own intention, there was an observable and significant improvement. While 58 women intended to use a sure method at the pre-intervention questionnaire, 77 ones actually used a sure method. 37.9% improvement. In addition, there was a significant difference between the study group and control group in sure method use.
- Analysis of post intervention questionnaires revealed that 0.9% of the study groups (only one mother) compared to 4.6 % of the control groups (five mothers) didn't breastfeed at all. In addition, there was significant difference between study and control groups regarding knowledge of benefits of breastfeeding; 74.8% of the study

group knew at least three benefits for breastfeeding. On the other hand, only 3.7% of the control group knew such number of benefits ($X^2 = 129.8$, $P < 0.00001$). Time of initiation of breastfeeding has also showed significant difference between the two groups; 33.0% of the study group versus 12.0% of the control group have started breastfeeding by the first half hour after delivery. Results revealed that mothers of the study groups continued to breastfeed for longer periods than the control group.

- Analysis of the follow-up sheets of the study group along with post intervention questionnaires for both study and control groups revealed a significant difference between the two groups regarding exclusive breastfeeding during the first 4 months; 70 mothers of the study group (65.4%) versus 23 of the control group (21.1%), and also during the first 6 months, 37 mothers of the study group (34.6%) versus only 8 of the control group (7.3%). $X^2 = 76.65$, $P < 0.00001$.
- Analysis of the pre-intervention questions related to the proper food used for weaning revealed that many mothers (of both groups) didn't have the right information regarding proper weaning (41.1% of the study group and 69.9% of the control group).
- The study group showed a much better weaning practice with their children. Analysis of the post-intervention questionnaire revealed a significant difference between the two groups regarding the time they actually introduced both fluids and solids in their infants feeding $X^2 = 83.34$, $P < 0.00001$.
- While 3.6% of the children of the control had under-nutrition, no one of the study group children was underweight. In addition, analysis of height/age for both study and control groups revealed that 89.9% of the study group were in the normal range, 83.5% of the control group were in the same range.
- At the end of the study, both groups were asked about the incidence of diarrhea, cough and vomiting in their children. Analysis of the results revealed no difference between the two groups in mean number of attacks of diarrhea. On the other hand, The difference between the two groups was statistically significant in the mean number of attacks of vomiting and ARI (Acute Respiratory Infections).

Suggestions and Recommendations:

1. Implementation of a mother education program during the prenatal and postnatal periods can improve knowledge and practice of mothers in relation to initiation and duration of exclusive breastfeeding as well as proper weaning practice. To effectively implement such a program, coordination and integration between family planning and pediatric divisions of the MCH centers is a must. Training of MCH staff on implementation of similar educational programs is a prerequisite for its success.
2. There is a surplus of educational and counseling materials. Effective and comprehensive use of these materials in MCH centers will certainly help improve mothers' knowledge and attitude. This will affect their own health as well as their infant's growth and development.

List of References

References

AbouZahr, C. Essential Obstetric Care --Its Role and Importance in the Mother-Baby Package. In: Issues in Essential Obstetric Care. Report of a technical Meeting of the Inter-Agency Group for Safe Motherhood. May 31-June 2, 1995.

Affonso, DD; Mayberry, L.; Inaba, A.; Matsuno, R. and Robinson, E. Hawaiian-style "Talk story": Psychological assessment and intervention during and after pregnancy. *J Obstet Gynaecol Neonatal Nurs*, Nov-Dec 1996. 25:9, 737-42.

Ahmed, W.; Beheiri, F.; El-Dirini, H.; Manala, OD.; and Bulbul, A. Female Infant in Egypt: Mortality and Child Care. *POPULATION SCIENCES*. 1981; (2) :25-39.

Al- Gebaly, H. Weaning practice in Egypt. An updated review. A Thesis submitted in partial fulfillment of Master of Science. Faculty of Medicine. Ein Shams University. 1993.

Al-Shehri, SN; Farag, MK; Baldo, MH; Al-Mazrou, YY and Aziz, KM Review on Breastfeeding Patterns in Saudi Arabia. *J. Trop. Pediatr.* 1995; 41 Supl 1: 38-44

Alexander GR and Korenbrot CC. The Role of Prenatal Care in Preventing Low Birth Weight. *Future Child*. 1995 Spring, 5:1, 103-20

American College of Nurse-Midwives; Georgetown University Institute For Reproductive Health Lactation Education For Health Professionals: Annotated Curriculum. RH Training Materials; USAID Cooperative Agreement No. DPE-3061-A-00-1029-00. Washington D.C. . Georgetown University Institute For Reproductive Health, 1996.

Arkutu, AA. Healthy Women, Healthy Mothers : An Information Guide. 2nd ed. ix RH Training Materials . New York. New York, Family Care International, 1995.

Assaad, R. Urbanization and Demographic Structure in The Middle East and North Africa With Focus on Women and Children. The International Population Council. New York. Regional Papers. January 1995. No. 40

Azer, A. and Al-Adawy, M Towards The Implementation of The Convention on the Rights of the Child In Egypt. UNICEF. July 1994

Barber, JH; McEwan, C and Yates, BD Video. Health Education and The General Practitioners Contact. *Health Bull (Edinb)*, 1995 Sept, 53:326-33

Barnet, E.; Sienkiewicz, M.; and Roholt, S. Beliefs About Breastfeeding: A Statewide Survey of Health Professionals. *Birth* 1995 Mar, 22(1):15-20.

- Barros, FC; Semer, TC; Tonioli Filho, S; Toman, E and Victora, CG.** The Impact of Lactation Centers on Breastfeeding Patterns Morbidity and Growth: a birth cohort study. *Acta-Paediatr.* 1995 Nov; 84(11):1221-6.
- Bax, M.; Hart,H.; and Jenkins, S.** *Child Development and Child Health.* Black Well Scientific Publications. 1990.
- Berjon-Rufes, MC and Barba-Perez, MN.** Promotion of Infant Health. Experience in a rural health center. *Rev-Sanid-Hig-Public-Madr.* Mar-Apr 1992 66(2) : 131-8.
- Bertrand, J.** Recent Lessons From Operations Research on Service Delivery Mechanisms. Paper Prepared for : The International Operations Research Conference and Workshop on Using Operations Research to Help Family Planning Programs Work Better. Colombia, Maryland. June (11-14), 1990.
- Bohler, E and Bergstrom, S.** Child growth during weaning depends on whether mother is pregnant again. *J. Trop. Pedatr.,* 1996 Apr, 42:2, 104-9.
- Bordman HB; Holzman IR.** Infant Care Knowledge of Primiparous Urban Mothers. *J Perinatol,* 1996 Mar-Apr, 16:2 Pt 1, 107-10.
- Borrensen, H.** Rethinking current recommendations to introduce solid food between four and six months to exclusively breastfeeding infants. *J-Hum-Lact.* 1995 Sept; 11 (3): 201-4.
- Bruce, J.; Lloyd,C; Leonard, A . and others.** Families in focus New perspectives on mothers, fathers and children. The Population Council. New York 1995.
- Brent NB; Redd B; Dworetz A; D'Amico F and Greenberg JJ.** Breastfeeding in a Low-Income Population. Program to Increase Incidence and Duration. *Arch Pediatr Adolesc Med,* 1995 Jul, 149:7, 798-803.
- Brown, K. and Bently, M.** Dietary management of diarrhea. *Mother and Children* Vol 7. No. 3, 1989.
- Bull-World-Health-Organ.** Maternal anthropometry and pregnancy outcomes A WHO Collaborative Study. 1995; 73 Suppl; 1-98.
- Bulut, A. and Turan JM.** Postpartum Family Planning and Health needs of women of low income in Istanbul. *Stud-Fam-Plann.* 1995 Mar-Apr; 26(2) 88-100
- Cai, WW.; Gao, Yn. and Liu, Xy.** Multivariate analysis of relationship between breast feeding and infant physical development *Chung-Hua-Yu-Fang-I-Hsueh-Tsa-Chin* 1994 Nov; 28(6): 344-6
- Caldwel, JC.** The International Conference on Population and Development. Cairo. 1994. Is its Plan of Action Important, desirable and Feasible? The Nature of the Forum Health transition review. 1996 Apr; 6 (1): 71-2.

Camara, B.; Hanne, K.; Diouf, S. and others. Place on information in health services use of mothers in Guediawaye. *Dakar.Med.* 1994; 39(1): 63-7

CAPMAS and UNICEF. The Situation of Children in Upper Egypt.. November 1989.

CAPMAS and UNICEF. The State of Egyptian Children.. June 1988.

Carceller, A.; Rousseau, E.; Chad, Z. and Bernard-Bonnin, AC. Infant feeding practices: Are CPS guidelines followed? *Can. J. Public Health.* Sept-Oct 1995; 86(5): 301-4

Centre for Development and Population Activities (CEDPA). Cairo Conference Affirms CEDPA Priorities. *CEDPA NETWORK.* Jan 1995;:1-2

Cleaveland, K. and Janowitz, B. Improving Family Planning: A Decade of FHI's Programmatic Research. *Family Health International.* U.S.A. 1992

Cohen, RJ; Haddix, K.; Hurtado, E and Dewey KG. Maternal Activity Budgets feasibility of exclusive breastfeeding for six months among urban women in Honduras. *Soc. Sci. Med.* 1995 Aug; 41(4): 527-36.

Cook, RJ.; and Fathalla, MF. Advancing Reproductive Rights Beyond Cairo and Beijing. *International Family Planning Perspectives.* 1966 Sept; 22 (3): 115-21

Corbett-Dick, P. and Bezek, SK. Breastfeeding promotion for the employed mother. *J. Pediatr Health Care,* 1997 Jan-Feb, 11:1, 12-9.

Dewey, KG. ; Heinig, MJ. and Nommsen-Rivers. LA. Differences in morbidity between breast-fed and formula-fed infants. *J Pediatr.* 1995 May; 126(5 Pt 1) 696-702

Diaz, S. ; Herreros, C. ; Aravena, R. and others. Breastfeeding duration and growth of fully breastfed infants in a poor urban Chilean population. *Am. J. Clin. Nutr.* 1995 Aug; 62(2): 371-6.

Dunn, PM. Major ethical problems confronting perinatal care around the world. *Int. J. Gynaecol. Obstet;* 1995 Dec, 51(3): 205-10

El Hamamsy, L. Early Marriage & Reproduction in Two Egyptian Villages Occasional Monograph. *The Population Council/UNFPA* 1994

El-Guendy, A. Child's Day.....Present and Future. *Childhood and Motherhood* A Newsletter issued by the General Secretariat of the National Council for Childhood and Motherhood. Issue No. 13. Dec 1993.

El-Sayed, H. Patterns of Breast-Feeding in the First Six Months of Life among Attendants of Maternal and Child Health Center. Factors and Impact. Thesis submitted

- in partial fulfillment of the Master Degree in Public Health. Faculty of Medicine. Cairo University, 1997.
- EPI UPDATE.** Communication as a Means of Sustaining Immunization Coverage. October 1991.
- Ewles, L. and Imnett, I.** Promoting Health. A Practical Guide to Health Education. John Wiley & Sons Ltd. 1985.
- Family Health International .** (FHI) Women and Family Planning. Network., Vol. 15. No. 1, August 1994.
- Family Health International.** (FHI) Family Planning/Operation Research Workshop. Alexandria, Egypt, 1990.
- Farrel, BL.** Lactational Amenorrhea Method (LAM) Trainer's Module. Washington D.C. American College of Nurse-Midwives, Special projects Section, RH Training Materials; USAID Cooperative Agreement No, DPE-3061-A-00-1029-00. 1995 Feb. (5), 59, (2)P
- Farzaneh, IJ.** Precious Milk. Va-Med-Q. 1994 Fall; 121(4): 249-50.
- Fateem, E.** Focus Group Sessions on Immunization and Diarrhea Control Communication Materials. A Post-Production Assessment. Ministry of Health, Arab republic of Egypt and UNICEF. May 1990.
- Fidler, K. and Costello, A.** The role of doctors in influencing infant feeding practices in south india. Trop. Doct. 1995 Oct, 25(4): 178-80
- Finger, W.** Breastfeeding. Network. Family Health International. Vol.13.. No.2. October 1992.
- Fisher, A. , Laing, J. and Stoekel, J.** Guidelines for Overcoming Design Problems In Family Planning Operations Research. Studies in Family Planning Vol.16 Number 2 March/April 1985.
- Fisher, A. , Laing, J. and Stoekel, J. et al.** Handbook for Family Planning Operations Research Design. 2nd Edition. The Population Council. West Asia and North Africa. English Edition 1991. Arabic Edition 1993.
- Forste, R.** Effects of lactation and contraceptive use on birth-spacing in Bolivia. Soc Biol. 1995 Spring-Summer; 42(1-2): 108-23.
- Fouad, DM.** Features of Women Present Status in Egypt and Their Impact on Development. Cairo Demographic Center. Series on Population and Development. 1994

- Freed, GL; Clark, SJ; Sorenson, J.; and others.** National assessment of physicians' breastfeeding knowledge, attitudes, training, and experience. *JAMA*. 1995 Feb 8; 273(6): 472-6
- Freed-GL; Calrk SJ; Cefalo RC; Sorenson JR.** Breast Feeding Education of Obstetric-Gynecology Residents and Practitioners. *Am-J-Obstet.-Gynecol* 1995 Nov; 173(5): 1607-13.
- Gale, CR. and Martyn, CN.** Breastfeeding, dummy use, and adult intelligence. *Lancet* 1996 Apr20; 347(9008):1072-5.
- Gallen, M. and Rinehart,W.** Operations Research: Lessons for Policy and Programs. Population Reports. Family Planning programs. Volume XIV, Number 2. Series J Number 31-May/June 1986.
- Garcia, J.; France-Dawson, M. and Macfarlane, A.** Improving Infant Health. Health Education Authority, England. 1994.
- Godfrey, K.; Robenson, S.; Baker, DJ. and others.** Maternal nutrition in early and late pregnancy in relation to placental and fetal growth. *BMJ*. 1996 Feb 17; 312(7028):410-4.
- Green, C. Rinehart, W. and Goldstein, S.** The Environment and Population Growth Decade for Action. Population Reports. Special Topics. Series M, Number 10 May 1992.
- Gryboski, KL.** Maternal and Non-Maternal Time-Allocation to Infant Care During Infant Illness in Rural Java, Indonesia. *Soc Sci Med*. 1996 Jul. 43.2. 209-19
- Guimie, M.; Abdel Aziz, S.; Nawar, L.; Huntington, D. and Hegazi, S.** Development of Approaches to Community Based Family Planning Outreach in Egypt: Assessment of Raidats Rifiats Programs. The International Population Council. July 1995.
- Haas, J.; Orav, E. and Goldman, Lee.** The Relationship Between Physicians' Qualifications and Experience and the Adequacy o Prenatal Care ad Low Birth Weight. *American Journal of Public Health*. 1995, August, Vol 85. No. 8
- Haider, R.; Islam, A.; Hamadani, J.; Amin, NJ; Kabir, I.; Malek, MA.; Mahalanabis, D. and Habte, D.** Breastfeeding Counseling in a Diarrhoeal Disease Hospital. *Bull World Health Organ*, 1996, 74:2, 173-9
- Hamand, J.** Working For Change in the Arab World. Advocacy For Reproductive Health : Arab World. Planned Parenthood Challenges. 1996; (1) :5-7.
- Hardee, K. and Kafafi, L.** Operations Research, Definitions and Study Descriptions. Family Health International. U.S.A. 1989.
- Harpham, T. and Tanne, M.** Urban Health in developing countries- progress and prospects. Earthscan publications limited, 1994.

- Hashim, AA; Zalam, S.; El Gazzar, A.; Hussein, A.; Hamid, M. and Moharram, S.** Child Care in Islam. UNICEF 1995.
- Hauk, YL.; and Dimmock, JE.** Evaluation of An Information Booklet on Breastfeeding Duration. J-Adv-Nurs. Nov 1994; 20(5):836-43.
- Haupt A and Kane T.** The Population Reference Bureau's Population Handbook International Edition. 1989.
- Hawthorne, K.** Intention and reality in infant feeding. Mod-Midwife. 1994 Mar; 4(3): 25-8.
- Hoare, S.; Poppitt, SD.; Prentice, AM. and Weaver, LT.** Dietary supplementation and rapid catch-up growth after acute diarrhea in childhood. Br J Nutr, 1996 Oct, 76:4, 479-90.
- Hornstra, G.; Al, MD; Van Houwelingen, AC and others.** Essential fatty acids in pregnancy and early human development. Eur.J.Obstet.Gynecol.Repro.Biol. 1995 July; 61(1): 57-62
- Hossain, MM; Reves, RR; Radwan, MM; Habib, MM and DuPont, HL.** The Timing of Breastfeeding initiation and its correlates in a cohort of rural Egyptian Infants. J-Trop Pediat. 1995 Dec; 41(6): 354-9
- Houston, M.** Recent Advances in Nursing. Maternal and Infant Health Care Longman Group Limited. 1984
- ICPD News.** From Cairo to Beijing: Women's Conference Amplifies ICPD Oct 1995
- Integration Journal.** International Review of Population, Family Planning and maternal and Child Health. A Demographic Breakthrough. Sept1994 No 1 P2-3
- Isabella, PH. and Isabella, RA.** Correlates of successful breastfeeding: a study of social and personal factors. J Hum Lact. 1994 Dec; 10(4). 257-64
- Jacobson, J.** Family, Gender and Population Policy: Views From the Middle East The Population Council 1994.
- Jain, A.** 1988. Assessing the fertility impact of quality of family planning services International programs working paper. No 22 New York The Population Council
- Jakobsen, MS.; Sodemann, M; Molbak, K. and Aaby, P.** Reason for termination of breastfeeding and the length of breastfeeding Int. J. Epidemiol, 1996 Feb, 25(1): 115-21
- Jato, MN.; Vonrasek, CA.; Awasum, DN** Communication Strategies to Maximize Access and Improve the Quality of Family Planning and Reproductive Health Care Services. Paper presented at the Franco-Phone Regional Conference on Maximizing

Access and Improving Quality of Family Planning and Reproductive health Services in Francophone Sub-Saharan Africa, Ouagadougou, Burkina Faso, March 12-18, 1995.

Jensen, E. Cost Effectiveness and Financial Sustainability: The Operations Research Experience. Paper Prepared for: The International Operations Research Conference and Workshop on Using Operations Research to Help Family Planning Programs Work Better. Colombia, Maryland. June (11-14), 1990.

Jimenez, R.; Fragoso, T.; Sagaro, E.; and Bacaallao, J. Influence of breastfeeding on nutritional development of infant with persistent diarrhea. *Acta-Gastroenterol-Latinoam.* 1995; 25(1):41-8.

Johns Hopkins University. Center for Communication Programs. Population Communication Services. Family Planning Communication In Egypt A Guide for IEC Managers. April 1991.

Johns Hopkins University. School of Public health. Center for Communication Programs. And the Nile Flows On. The Impact of a Serial Drama In Egypt. Project Report. May 1994.

Johns Hopkins University. School of Public health. Center for Communication Programs. Madmuum & Murih. Effective and Comfortable. A Summary of Findings From Family Planning Research in Egypt. 1988-1993

Johnson, BR. Implementing the Cairo Agenda. *LANCET*1995. Apr.8; 345 (8954)

Kakai, R.; Bwayo, JJ.; Wamola, IA. and others. Breastfeeding and immunity to intestinal infections. *East. Afr. Med. J.* 1995 Mar. 72(3) 150-4

Kane, T.; El-Kady, A.; Saleh, A.; Hage, M.; Stanback, J. and Potter. L. Maternal Mortality in Giza, Egypt: Magnitude, Causes, and Prevention Studies in Family Planning. Vol 23 No.1 Jan/Feb 1992. 45-57

Kasemsarn, P.; Ngarmpiyasakul, C.; Phongpanich, S. and Pulkasisri, N. Baby-friendly Hospital: How to Sustain? *J-Med-Assoc-Thai.* 1995 Jul. 78(7):362-8

Kassem, E. Infant Weaning. Thesis submitted in partial fulfillment of Master of Science. Institute of Childhood Studies. Ein Shams University. 1988

Kemm, J. and Close, A. Health Promotion Theory and practice. Macmillan Press Ltd 1995

Kennedy, K. and Visness, C. Contraceptive Efficacy of Lactational Amenorrhoea *Lan* 339: Jan 1992. 227-30

Khalifa, M. and Abdel Ghani, A. Developing MCH/FP Service Delivery Referral Linkages. Final Report. Nov. 1995.

- Khattab, H.** The Silent Endurance. Social Conditions of Women's Reproductive Health in Rural Egypt. UNICEF 1992. Second Edition 1995.
- Kistin, N.; Abramson, R.; and Dublin, P.** Effect of Peer Counselors on Breastfeeding Initiation, Exclusive, and Duration Among Low-Income Urban Women. *J Hum Lact.* 1994. Mar; 10(1):11-5
- Kleinman, R., and Senanayake, P.** Breast Feeding, Fertility and Contraception International Planned Parenthood Federation, 1984
- Klerman, LV.; Phelan, ST.; Pools, VL.; and Goldenberg, RL.** Family Planning: An Essential Component of Prenatal Care. *Journal of the American Womens' Association.* 1995 Sept-Oct; 50 (5): 147-51.
- Koenig, Michael A.** Increasing the Application of Operations Findings in Public Sector Family Planning Programs: Lessons from the ICDDR,B Extension Project. Paper prepared for : The International Operations Research Conference and Workshop on Using Operations Research to Help Family Planning Programs Work Better. Columbia, Maryland. June 11-14, 1990.
- Labbok, M.; Cooney, K.; and Coly, S.** Guidelines: Breast feeding, Family Planning and Lactational Amenorrhoea. Method-LAM. Institute of Reproductive Health, Georgetown University. USA 1994.
- Lande, R. ; Rinehart, W. and Goldstein, S.** New Era For Injectables. *Population Reports.* Series K, Number 5. August 1995.
- Last, J.** Health Systems Repeach. Making the Most of Research. *World Health Forum.* Vol.10. 1989,32-36
- Lawrence, R.** The clinician's role in teaching proper infant feeding techniques. *J. Pediatr.* 1995 Jun; 126(6): S112-7.
- Lawrence, R.** Breast feeding. A Guide for the Medical Profession. The C.V. Mosby Company 1980.
- Lawson, K and Tulloch, Mi.** Breastfeeding duration: prenatal intentions and postnatal practices. *J. Adv. Nurs.* 1995 Nov.; 22(5): 841-9.
- Lazzaro, E.; Anderson, J and Auld, G.** Medical Professionals' Attitudes Toward Breastfeeding. *J-Hum-Lact.* 1995 Jun, 11 (2): 97-101.
- Leef, EW; Schriefer, J; Hagan, JF; and DeMarc, PA.** Breastfeeding Support: A Community Health Improvement Project. *Jt Comm J Qual Improv.* 1995 Oct, 21:10, 521-9.
- Leff, EW; Gagne, MP and Jefferis, SC.** Maternal perceptions of successful breastfeeding. *J Hum Lact.* 1994 Jun; 10(2): 99-104

- Leuzzi, RA; and Scoles KS.** Preconception Counseling for the Primary Care Physician. *Med Clin North Am*, 1996 Mar, 80:2, 337-74.
- Levine, R. and Bennet, J.** Sustainability of Family Planning Programs and Organizations: Meeting Tomorrow's Challenges. OPTIIONS. Policy Paper Series No.6. Jan 1995.
- Losch M; Dungy CI; Russell D; and Dusdieker LB.** Impact of Attitudes on Maternal Decision Regarding Infant Feeding. *J-Pediat*. 1995 Apr; 126(4): 507-14.
- Lothian, JA.** It Takes Two To Breastfeed. The Baby's Role In Successful Breastfeeding. *J Nurse Midwifery*. 1995 Jul-Aug, 40:4, 328-34.
- Lust, KD; Brown, JE. and Thomas, W.** Maternal intake of cruciferous vegetables and other foods and colic symptoms in exclusively breast-fed infants. *J Am Diet Assoc* 1996 Jan; 96(1): 46-8.
- MacDonald, J.** Primary Health Care, Medicine in its place. Earthcan Publications LTD, London. 1993
- Maine, D.** Safe Motherhood Programs: Options and Issues. Center for Population and Family Health. School of Public health Columbia University. 1997.
- Masslo, JA.** A Post-Cairo Profile. The Population Council. *ORGYN*. 1996. (1) 2-5
- Mbuli, A., Palmer, G. Amelia, M. et al.** Working and Breast Feeding. Voices From the Field: Swaziland, Brazil, United Kingdom and Burkina Faso. *Mother and Children Bulletin on Infant Feeding and Maternal Nutrition*. Vol 1. Number 2. 1993
- McCann, M. and Potter, L.** Progestin-Only Oral Contraception. A Comprehensive Review. *Family Health International. Contraception An International Journal* 50 :6a(suppl 1) Dec 1994. 137-60
- McCauley, A., Robey, B. Blanc, A. et al.** Opportunities For Women Through Reproductive Choice. *Population Reports. Special Topics. Series M. Number 12*. July 1994.
- Melville, B.; Filder, T; Mehan, D.; Bernard, E. and Mulling J.** Growth Monitoring the role of community Health Volunteers. *Public Health*. Mar 1995, 109 2, 111-6
- Michaelsen, KF.; Larsen, PS.; Thomson, BL. and Samuelson. G.** Duration of Breastfeeding - Which factors are significant? *Ugeskr-Laeger* 1995 Apr, 157(16)
- Minardi, H. and Riley, M.** Communication in Health Care. A skills-Based Approach Reed Educational and Professional Publishing Ltd 1997
- Ministry of Health, WHO and UNICEF** Immunization in Practice. A vaccination guide for health workers. Third Edition 1993.

- Ministry of Health, WHO and UNICEF.** Breast Feeding Promotion in Practice. Facts for Action for Health Professionals. Baby and Mother Friendly Hospital Initiative. 1992.
- Ministry of Health.** Child Survival project. National Maternal Mortality Study. Findings and Conclusions. Egypt 1992-1993.
- Ministry of Health.** Empowering Women to Breastfeed- Guidelines For Action. World Breastfeeding Week. 1-7 August 1995. - Egypt.
- Ministry of Health. Child Survival Project.** Mass Media Campaign Strategy 1995. Presentation.
- Ministry of Health. Child Survival Project.** Safe Motherhood and Child Spacing In Practice Primary Health Units Physicians Training Manual. 1992
- Ministry of Health.** The Child Survival Project training manual presents counseling procedures in family planning. 1990
- Ministry of Information. State Information Service. IEC Center.** Communication is the Key. Cairo 1994.
- Ministry of Local Administration and UNICEF.** Egypt's Mid-Decade Goals. Achievements and Challenges. Cairo Sept 1996.
- Ministry of Waqfs & Ministry of Information.** State Information Service Information Education and Communication Center. Islam's Attitude Towards Family Planning Cairo 1992.
- Mitra, AK.; and Rabbani, F.** The importance of breastfeeding in minimizing mortality and morbidity from diarrhoeal diseases: the Bangladesh perspective. J-Diarrhoeal-Dis-Res. 1995 Mar; 13(1):1-7.
- Montazeri, A.** Health education Campaign on Population Control. Lessons From Iran. Public health, 1995 Nov; 109(6) 425-30
- Monte, CM.; Ashworth, A.; Nations, MK.; Lima, AA.; Barreto, A. and Huttly, SR.** Designing Educational Messages to Improve Weaning Food Hygiene Practices of Families Living in Poverty. Soc Sci Med. 1997 May; 44:10. 1453-64.
- Moreland, RS.** Investing in Egypt's Future. The Costs and Benefits of Family Planning In Egypt. June, 1996.
- Moreland, RS.; Naguib, NG.; El-Zanaty, F.; Abdalla, E. and Olson, K.** Putting Children First. Household Expenditures of Children In Egypt. The National Population Council and the RAPID IV Project. 1996 June

- Morely, D. and Lovel, H.** I Am The Son of Today. An Illustrates Discussion of Child Health, Society and Poverty in Less Developed Countries. Macmillan Publishers Limited 1990.
- Morris, L. et al.** How to Communicate Evaluation Findings. SAGE Publications 1987.
- Mother Care Matters.** Healthy Pregnancy, Safe Delivery- The Mothercare Experience. Vol.4, No.2- Special edition.
- Mtawali, G; Curtis, KM; Angle, MA and Pina, M.** Contraceptive Side Effects Responding to Client's Concerns. Outlook. Special Issue: addressing Contraceptive Side Effects. Vol 12, No.3 Oct 1994 .1-8
- Naguib, N. and Lloyd, C.** Gender Inequalities and Demographic Behavior. Egypt. The International Population Council/New York. 1994.
- Nassar, H. et al.** Review of Trends, Policies and Programs Affecting Nutrition and Health in Egypt. (1970-1990) UN ACC/SCN Country Case Study for the XV Congress of the International Union of Nutritional Sciences. Sept 26 to Oct 1. 1993. Adelaide.
- National Population Council & RAPID IV** Family Planning in Egypt. A Sound Investment. The Cost -Benefit Study of Family Planning In Egypt. Summary report July 1994.
- National Population Council with MACRO International Inc** Egypt Demographic & Health Survey 1988. National Population Council Demographic and Health Surveys, September 1988.
- National Population Council with MACRO International Inc** Egypt Demographic & Health Survey 1995. National Population Council Demographic and Health Surveys, September 1996.
- National Population Council.** The Egyptian Family Planning Success Story. Sept 1994.
- Nepal. Ministry of Health** Family Health Division Safe Motherhood Program Making Safe Motherhood Work in Nepal Programmatic Elements and Challenges 1996.
- Nkata, M.** Health Education For Safe Motherhood. AFRICA HEALTH 1996 Mar. 18 (3):19-20.
- Obermeyer, CM.** Family, Gender and Population in the Middle East Policies in Context. The American University in Cairo Press 1995
- Orlando, S.** The Immunology Significance of breast Milk. J Obstet Gynaecol Neonatal Nurs, 1995 Sept, 24:7,678-83

- Overseas Development Administration.** Children By Choice Not Chance. Meeting The Challenge. 1992
- Overseas Development Administration.** Health and Population Policy Statement. 1993.
- Pan, E.; Gross, D.; and Bello, D.** Prenatal Power--Education For Life. Public health Rep, 1996 Nov-Dec. 111:6, 541-5
- Paolisso, M.; & Leslie, J.** Meeting the Changing Health Needs of Women in Developing Countries. Social Science and Medicine. Jan 1995; 40 (1): 55-65.
- Pezzati, M.; Biagioli, E.; Mainard, G. and others.** Influence of the early mother-infant contact in the delivery room on short or long term breastfeeding. Minerva Pediatr. 1994 Dec; 46(12): 549-52.
- Piotrow PT; and DuVerlie, E.** Communication Makes a difference. INFORMATIE EN INTERNATIONALE ONTWIKKLING. 1996, May-June; 8 (1):2-5
- Piotrow, PT.; Treiman, KA.; Rimon, JG; Yun, SH and Lozare, BV.** Strategies For Family Planning Promotion. The International Bank for Reconstruction and Development/ The World Bank. World Bank Technical Papers. No. 223. 1994.
- Pipes,P. and Trahms,CM.** Nutrition in infancy and childhood. Mosby-Year Book, Inc. 1993 P(1,2,27,59,88,218).
- Pitts M; McMaster J; Hartmann T; and Mausezahl D.** Lay Beliefs About Diarrhoeal Diseases: Their Role in Health Education in a Developing Country. Soc Sci Med, 1996 Oct, 43:8, 1223-8.
- POPTECH's Report at a Glance Series.** Final Evaluation of the Information, Education, and Communication Subproject of the Egypt Population/Family Planning II Project. Project No. 263-0144 (1989-1993).
- Population Briefs.** New Strategies For Slowing Population Growth Jan 1995. Vol 1. No. 1.1-8
- Population Reference Bureau, Inc.** World Population Data Sheet . 1995.
- Population Reference Bureau, Inc.** World Population Data Sheet 1993.
- Population Reports.** McCauley, Ann et al. Opportunities For Women Through Reproductive Choice. Special Topics. Series M, Number 12. July 1994
- Prasad, B; & Costello, AM.** Impact and Sustainability of a "Baby Friendly" Health Education Intervention at a District Hospital in Bihar, India. BMJ. 1995 Mar 11; 310 (6980): 621-3.

Pugin, E; Valdes, V; Labbok, MH.; Perez A and Aravena R. Does Prenatal Breastfeeding Skills Group Education Increase The Effectiveness of Comprehensive Breastfeeding Promotion Program? *J Hum Lact*, 1996 Mar, 12:1, 15-9.

Rahman, M; Islam, MA; & Mahalanbis D. Mother's knowledge About Vaccine Preventable Diseases and Immunization Coverage in a Population With High Rate of Illiteracy. *J-Trop Pediatr*. 1995 Dec; 41(6):376-8.

Ramalingaswami, V. Breastfeeding.....Protecting a Natural resource. *IMPACT*. 1988

Rigby, H.; and Leibtag, S. Flipcharts. WHAT'S NEW IN THE MEDIA/MATERIALS CLEARHOUSE. 1996 Feb; : 1-8. RH Training Materials.

Robey, B. ; Piotrow, P. and Salter, C. Family Planning Lessons & Challenges Making Programs Work. *Population Reports. Family Planning Programs. Series J. No. 40.* August 1994.

Robey, B.; Rutstein, S. and Morris, L. The Fertility Decline in Developing Countries. *Scientific American, Inc.* Vol 269. No. 6 PP 60-67. Dec. 1993

Robinson, W. and El-Zanaty, F. The Impact of Policy and Program on Fertility in Egypt. *The Egyptian Family Planning Success Story.* July 1995.

Rosenfield, JA. and Everett, KD. Factors related to planned and unplanned pregnancies. *J. Fam. Pract*, 1996 Aug; 43(2): 161-6

Sadik, N. A Re-examination of Women's Role and Status. Muslim men and Women Together Can Reach Consensus on Their Roles in Modern Islamic Societies Keynote Speech. *INTEGRATION*. 1996 Spring; (47): 6-7

Satia J; and Tahir S. From MCH-FP to Reproductive Health Programs. In *Innovative Approaches to Population Program Management. Volume 3. Reproductive Health.* edited by Jay Satia, Sharifah Tahir. Kuala Lumpur, Malaysia, International Council on Management of Population Programs (ICOMP), 1995. 1-10.

Selim A. A Profile of the Lives of Egyptian Women. In: *Perspectives on Fertility and Family Planning in Egypt. Results of Further Analysis of the 1992 Egypt Demographic and Health Survey*, edited by Maher Mahran, Fatma H. El-Zanati. Ann A. Way Cairo Egypt. National Population Council, 1995 Aug; 169-82. *Demographic and Health Surveys (DHS)*.

Senanayake, MP.; Gunawardena, MK.; Peiris, DS. Maternal Comprehension of Two Monitoring Charts in Sri Lanka. *Arch Dis Child*, 1997 Apr, 76 4. 359-61

Serventi, M.; Dal-Lago, AM. and Kiamora, DN. Early cessation of breastfeeding as a major cause of severe malnutrition in under twos. A hospital based study--Dodoma region, Tanzania. *East. Afr. Med. J.* 1995 Feb; 72(2): 132-4

- Serwint, JR.; Wilson, ME.; Vogellhut, JW.; Repke, JT. and Seidel, HM.** A Randomized Controlled Trial of Prenatal Pediatric Visits For Urban, Low-Income Families. *Pediatrics*, 1996 Dec, 98:6 Pt 1, 1069-75.
- Sherris, J.; London, K.; Moore, S. et al.** The Impact of Family Planning Programs on Fertility. *Population Reports. Family Planning Programs. Series J, No. 29 Jan/Feb.* 1985.
- Silva, LC.; Valdes-Lazo, F, and Amador, M.** Discontinuity indices: A tool for epidemiological studies on breastfeeding. *Int. J. Epidmiol.* 1995 Oct; 24(5): 965-9.
- Simmons, J.** Making Health Education Work. American Health Association. 1976.
- Sommerfelt,AE and Stewart, MK.** Demographic and Health Surveys Comparative Studies. Children's Nutritional Status. Macro International, Inc. June 1994.
- South Africa. Department of Health.** Maternal, Child and Women's Health. 1995
- Sullivan, K.** Promises To Keep: Goals For Children in the Middle East and North Africa. A Mid Decade Look at Progress. UNICEF Regional Office-Amman, Jordan. March, 1995.
- Thapa, S. Hamill, D. and Lampe, P.** Continuation and effectiveness of program and non-program methods of family planning in rural Sri Lanka. Paper presented at United Nations Expert Group Meeting on methodologies for measuring contraceptive use dynamics, N.Y., Dec 5-7 1988.
- The Central Agency For Public Mobilization and Statistics(CAPMAS) and UNICEF** The Situation of Children in Upper Egypt. November 1989.
- The Central Agency For Public Mobilization and Statistics(CAPMAS) and UNICEF.** The State of Egyptian Children. June 1988.
- The Family Planning Manager.** (1994). Increasing Community Participation in Family Planning programs. March/April 1994. Vol III, No.2
- The National population Council of Egypt.** The National Population Policy. 1995
- Tietze, Kw.; Hess, H. and Trumann, B.** Promoting breastfeeding and the public health service. *Gesundheitswensen.* 1995 Nov; 57(11): 744-5
- Tones, K. and Tilford, S.** Health Education. Effectiveness, efficiency and Equity. Second Edition. Chapman & Hall. 1994
- Toubia, N.; Bayeldin, A.; Hijab, and Latif, H.** Arab Women. A Profile of Diversity and Change. The Population Council 1994.
- Tucker,C.** UNICEF In Egypt. UNICEF Egypt Country Office. 1996.

UNDP. Human development Report .1995.

UNICEF & WHO. Breastfeeding Management and Promotion in a Baby-Friendly Hospital. An 18-hour course for maternity staff. 1993.

UNICEF & WHO. International Child Health: A Digest of Current Information. An International Pediatric Association Publication in Collaboration with UNICEF and WHO. Vol III, No. 2. April 1992.

UNICEF .The State of the World's Children. 1997.

UNICEF .The World's Women. 1995.

UNICEF Facts and Figures. 1993.

UNICEF Regional Office-Amman, Jordan. Promises To Keep: Goals For Children in the Middle East and North Africa. A Mid Decade Look at Progress.. March. 1995.

UNICEF. Children, Population and Development. ICPD 1994.

UNICEF. The State of The World's Children 1994. Leaflet .

UNICEF. Child Care in Islam, 1995

UNICEF. Children Of Egypt. 1987.

UNICEF. Facts and Figures. 1994-1995.

UNICEF. Facts and Figures. 1996

UNICEF. Keeping the Promise To Children. Goals for 1995. Published in Sept. 1993

UNICEF. Multi-Center BFHI Studies in Egypt. Pre & Post- Implementation Protection, Promotion and Support of Breast Feeding. Baby and Mother Friendly Hopsital. UNICEF 1993

UNICEF. The Progress of nations 1994.

UNICEF. Too Old For Toys Too Young For Motherhood. 1996

UNICEF/WHO/ UNESCO. Facts For Life. A Communication Challenge. 1989

United Nations Population Fund (UNFPA). Population Information, education and Communication. Asia-Pacific Popin Bulletin. 1995 Sep, 7(3):6-10

United Nations. Summary of the Program of Action of the International Conference on Population and Development. 1995.

- United Nations. World Declaration on the Survival, Protection and Development of Children.** World Summit for Children. New York, Sept 30, 1990.
- United Nations .** Population, Health and Environment. World Ecology Report. Critical Issues in health and the Environment. Summer 1994. Vol VI, No.2. 1-16
- Verma, M.; Chatwal, J. and Varughese, PV.** Antenatal period: an educational opportunity. *Indian Pediatr*; 1995 Feb; 32(2):171-7
- Vial, I.; Muchnik, E.; Mardones, F.** Women's Market Work, Infant Feeding Practice, and Infant nutrition among Low-Income Women in Santiago, Chile. In- *Women, Work, and Child Welfare in the Third World*, edited by Joanne Leslie and Michael Paolisso. Boulder, Colorado, Westview Press, 1989. :131-59.
- Wahba, S.** Sociocultural Factors Influencing the Prevalence of Diarrhoeal Disease in Rural Upper Egypt. An Ethnographic Study in Two Villages of Aswan. Final Report submitted to UNICEF. Nov. 1990.
- Wang, YX. and Wu, SY.** Effect of early suckling and emptying the breasts after nursing on exclusive breastfeeding. *Chung-Hua-Fu-Chan-Ko-Tsa-Chih.* Aug 1994; 29(8): 465-7,509-10.
- Warner, D. and Bower, B.** Helping health Workers Learn. The Hesperian Foundation 1987.
- Whitehead, RG.** For how long is exclusive breastfeeding adequate to satisfy the dietary energy needs of the average young baby? *Pediatr. Res.* 1995 Feb, 37(2): 239-43
- WHO.** Health Population and Development. WHO Position Paper. ICPD 1994. Cairo. WHO Geneva.
- Williams, El. and Hammer, LD.** Breastfeeding attitudes and knowledge of pediatricians-in-training. *Am.J.Prev.Med.* 1995 Jan-Feb; 11(1) : 26-33
- Williamson, N. ; Thapa, S. and Balogh, S.** Introducing New Methods, Popularizing Available Methods and Encouragement of Correct Use and Continuation. Lessons from Family Planning Operations Research and Practical Experience. Paper prepared for The International Operations Research Conference and Workshop. Columbia, Maryland. June 11-14, 1990.
- Wilmoth, TA. and Elder, JP.** An assessment of research on breastfeeding promotion strategies in developing countries. *Soc. Sci. Med.* 1995 Aug, 41(4) : 579-94
- Wolff, CB and Wolff, HK.** Maternal eating patterns and birth weight of Mexican American infants. *Nutr. Health.* 1995; 10(2): 121-34
- Wong, GC; Li, VC., Burris, MA. ; and Xiang, Y.** Seeking Women's Voices: Setting the Context for Women's Health Interventions in Two Rural Counties in Yunnan, China. *Social Science and Medicine.* Oct 1995; 41 (8) : 1147-57

World Health Organization. Health Population and Development. WHO Position Paper. ICPD 1994. Cairo . WHO Geneva.

World Health Organization. The Community Health Worker. 1989.

World Information Transfer. World Ecology Report . Population, Health and Environment. Critical Issues in health and the Environment. Summer 1994. Vol VI. No.2 .1-16

Worthington,R. , Vermersch, J. and Williams, S. Nutrition in Pregnancy and Lactation. The C.V. Mosby Company 1981.

Younis, N.; Khalil, N.; Zurayk, H. et al. Learning the Gynecological health of Women. The Population Council. The Policy Series in Reproductive Health. No.2 1994.

Younis, N.; Khattab, H. ; Zuryak, H. et al. A Community Study of Gynaecological and Related Morbidities in Rural Egypt. The Population Council. Regional Papers. No.38. December 1992.

Zimmerman, M. ; Newton, N. ; Frumin, L. Developing Health and Family Planning Print Materials for Low-Literate Audience. A Guide. Path (Program for Appropriate Technology in Health). 1989

Zurayk, H. Women's Reproductive Health in the Arab World. West Asia and North Africa Regional Papers. April 1994. No.39.

المراجع العربية:

*الأمانة العامة للطفولة والأمومة. الطفولة في مصر في تقرير للأمم المتحدة. العدد (٩) نوفمبر ١٩٩٢.

*الأمم المتحدة للطفولة والأمومة. الطفولة. التبعية من أجل الصحة. مرجع كتاب "حقائق الحياة"
Williams G.

*الأمم المتحدة للطفولة والأمومة. الطفولة في مصر. العدد (٩) نوفمبر ١٩٩٢.

*الأمم المتحدة للطفولة والأمومة. حماية و تشجيع و مساندة الرضاعة الطبيعية. مطوية للمشورة. ١٩٩٢
UNICEF Publication. Flip Chart Under Production

*البرزى دلال . أزرويل فاطمة . المرأة العربية. الواقع و التصور. ندوة نظمتها مجموعة أبحاث المرأة و
المؤسسات بالمغرب و مجلس السكان الدولي بالقاهرة. نور-دار المرأة العربية للنشر ١٩٩٥.

*القاضي. ع. الحمل الخطر. الحمل المتكرر والمتقارب

Arabic Publication by the Ministry of Health under Population Project II.1990.

*المجلس القومي للسكان . المشكلة السكانية في مصر . في الماضي، في الحاضر، في المستقبل. ١٩٩٠.

*المجلس القومي للسكان في ١٠ سنوات التاريخ.... والرسالة.... والإنجاز ١٩٨٥-١٩٩٥

*المجلس القومي للسكان و ماكرو انترناشيونال. السيدات و الأطفال في مصر. بيانات من المسح السكاني الصحي. مصر-١٩٩٥. EDHS

*المجلس القومي للسكان و ماكرو انترناشيونال. المسح السكاني الصحي مصر-١٩٩٥ ملخص أهم النتائج.

*الملطاوى.أ. دليل التثقيف الغذائي للأمهات- - برنامج التثقيف الغذائي بمراكز الخدمات الصحية- معهد التغذية.وزارة الصحة. أشرف هيئة الإغاثة الكاثوليكية. الوكالة الأمريكية للتنمية الدولية.SPAAC & USAID 1986

*الوكالة الدولية للتنمية الأمريكية. نحو حوار هادئ في مجال الاتصال السكاني. مبادرة المنيا. ١٩٩٢.

*جامعة جونز هوبكنز. تقارير سكانية. دليل المشورة الطبية. أهمية المشورة الطبية في مجال تنظيم الأسرة.

Lettenmaier, R.N. et al. Arabic translation of Population Reports No. 35-J Nov.1987.

ج.ج. إبراهيم. الرضاعة الطبيعية هي الخيار البيولوجي. ١٩٨١

عبد المجيد، محمد محمود و متى، سيداروس. نحو حوار هادئ في مجال الاتصال السكاني . مبادرة المنيا ١٩٩٢.

منظمة الأمم المتحدة للطفولة. مسيرة الأمم. ١٩٩٥.

منظمة الصحة العالمية- المكتب الإقليمي لشرق المتوسط. عالم متحرر من شلل الأطفال، هدف عام ألفين. يوم الصحة العالمي. إبريل ١٩٩٥.

ناجى، عبد الغنى. الأمومة و الطفولة و الإسلام. سلسلة المرأة المسلمة. دار الاعتصام. ١٩٧٩.

نشرة جمعية أصدقاء لبن الأم المصرية. أضواء على الرضاعة الطبيعية.. السنة الأولى- العدد الثاني. يونيو ١٩٨٩.

وزارة الصحة. التطعيم عمليا. دليل البرنامج الموسع للتطعيم للعاملين بمراكز التطعيم.. WHO and UNICEF.

وزارة الصحة. الطفل أمانة. التطعيم وقاية- مشروع الحفاظ على حياة الطفل. البرنامج الموسع للتطعيمات. ١٩٩٢.

وزارة الصحة وتنظيم الأسرة. إستراتيجية رعاية الأمومة و الطفولة. الإستراتيجية السكانية . أكتوبر ١٩٩٥.

وزارة الصحة. منظمة الصحة العالمية. منظمة الأمم المتحدة للأطفال (اليونيسف). التطعيم عمليا. دليل البرنامج الموسع للتطعيم للعاملين بمراكز التطعيم. ١٩٨٩.

وزارة الصحة و منظمة الصحة العالمية و منظمة الأمم المتحدة للأطفال . دليل الأم للرضاعة الطبيعية الناجحة. مبادرة المستشفيات صديقة الطفل الرضيع لحماية و تشجيع و مساندة الرضاعة الطبيعية.. ١٩٩٣.

وزارة الصحة. الصحة الإنجابية الآمنة.

Flip Chart for Use in MCH Centers. Ministry of Health. 1996

Appendices

KAP Test

استبيان لدرجة معرفة الام بالمعلومات
الخاصة بصحة الام والطفل
(اختبار قبلي)

- ١- كود المركز (A/B/C)
- ٢- كود السيدة (Serinal No.)
- ٣- كود القائم بالمقابلة (Nurse Trainer or Dr.)
- ٤- تاريخ المقابلة

الجزء الاول : معلومات خاصة بخلفية السيدة

٥- اسم السيدة وعنوانها :

- ٦- عمر كأم سنة

تكتب السنوات

٩٩ = لا اعرف

- ٧- ايه اعلى مستوى دراسى وصلتى له

١- لم اذهب للمدرسة

٢- ابتدائى

٣- اعدادى

٤- ثانوى

٥- ما بعد الثانوى

٨- إنتى بتستغلى ايه

١- ربة منزل

٢- عاملة

٣- موظفة بالحكومة

٤- عمل خاص - موظفة بالقطاع الخاص

٥- طالبة

٦- غيره (حدد).....

٩- هل هذا هو اول حمل لكى

٢- لا

١- نعم

١٠- تحبى تجيبى كام عيل تانى

(تكتب العدد)

٥٥ = ما اقدرشى احدد العدد (حسب ارادة ربنا)

٦٦ = حسب رغبة الزوج (زوجى)

١١- هل تعرفى اى وسيلى لتنظيم الاسرة

١- نعم ٢- لا

١٢- ما هى الوسائل التى تعرفينها

١- الاقراص

٢- اللولب

٣- الوسائل الموضوعية للمسيحات

٤- الوسائل الموضوعية للرجال

٥- الحقن

٦- النوربلانت

٧- العزل

٨- فترة الامان

٩- اخرى (ينكر)

١٣- من اين علمتى عن تنظيم الاسرة

١- التلفزيون ٢- الاذاعة

٣- الجارة/ الصديقة ٤- الام / الحماة

٥- المركز ٦- اخرى (ينكر)

١٤- هل تحدثتى عن موضوع تنظيم الاسرة مع زوجك

١- نعم ٢- لا

١٥- هل سبق ان استعملتى وسيلة تنظيم الاسرة ؟ منع الحمل

١- نعم ٢٠- لا

١٦- هل تتوين استخدام وسيلة بعد هذا الحمل

١- نعم

٢- لا

١٧- ما هي الوسيلة التي تتوين استخدامها بعد الولادة

- ١- الحبوب
٢- اللولب / الشريط
٣- الحقن
٤- الوسائل الموضعية
٥- فترة الامان
٦- لا اعرف
٧- اسأل الدكتور
٨- اخرى

الجزء الثالث : اسئلة خاصة بالتغذية (الام والطفل) :

| زائد | ناقص | كما هو |
|------|------|--------|
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| | | |
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١٨- ايه اخبار الاكل معاك

١- لحوم

ب- بقول

ج- خضار طازج

د- لبن

هـ- خضار مطبوخ

و- فواكه طازجة

ز- اخرى

١٩- اذا كان هناك حمل سابق

هل ارضعتي رضاعة طبيعية

١- نعم

٢- لا

٢٠- ما هي مدة الرضاعة الطبيعية في الحمل السابق

- ١- اقل من ثلاثة شهور
ب- ٣ شهور
ج- ٦ شهور
د- ٩ شهور
هـ- سنة
و- سنة ونصف
ز- سنتين
م- اكثر من ذلك

٢١- هل تتوین ارضاع طفلك طبيعى

١- نعم

٢- لا

٣- لا اعرف

٤- حسب الظروف / اخرى / حسب ارادة ربنا

٢٢- حل تعرفين فوائد الرضاعة الطبيعية

١- تساعد على نمو الطفل

٢- تمنع عن الطفل الامراض

٣- تساعد على انقباض الرحم وقلة النزف

٤- تعمل على المقاربة بين الام والطفل

٢٣- بعد الولادة متى يجب ان تبدأ الرضاعة الطبيعية

١- اول نصف ساعة

٥- اليوم الثانى

٢- اول ساعتين

٦- اليوم الثالث

٣- اول ٦ ساعات

٧- بعد ذلك

٤- اول يوم

٨- لا اعرف

٢٤- ما هى الطريقة الصحيحة لارضاع الطفل

١- من كل ثدى مرة

٢- من كلا الثديين كل مرة

٣- حسب الظروف

٤- حتى يشبع

٥- اخرى

٢٥- ما هى المدة التى يجب ان يمكثها طفلك على كل ثدى

١- ٥ دقائق

٢- ١٠ دقائق

٣- ربع ساعة

٤- حتى يشبع

٥- اكثر من ربع ساعة

٦- لا اعرف

٢٦- هل الرضاعة الطبيعية تمنع الحمل

١- نعم

٢- لا

٢٧- ماذا يجب ان تفعل بالطفل بعد الرضاعة

٢- لا شئ

١- اقوم بتكريمه

٣- لا اعرف

اسئلة : الفطام

٢٨- ما هو الفطام

٢- لا تعرف

١- تعرف

٢٩- ما هو العمر المناسب لبدء اعطاء الطفل اغذية اخرى غير لبن الام

٢- ثلاثة شهور

١- قبل ثلاثة شهور

٤- خمسة اشهر

٣- اربعة اشهر

٦- بعد ذلك

٥- ستة اشهر

٧- لا اعرف

٣٠- هل تعرفى ما هي الاغذية التي يمكن اعطاءها عند بدء الفطام

| الشهر |
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أ- صفار البيض

ب- عصير البرتقال

ج- بسكويت سادة

د- شوربة خضار

هـ- شوربة خضار باللحوم / الفراخ

و- لحوم / فراخ

ز- بقوليات

ح- اخرى حدد

٣١- ما هو العمر الذي يتم فيه الطفل فطامه ويكف عن الرضاعة الطبيعية

٢- سنة

١- ستة اشهر

٤- سنين

٣- سنة ونصف

٦- لا اعرف

٥- اكثر من سنتين

الجزء الرابع : اسئلة خاصة بالتطعيم

٣٢- ما هي التطعيمات التي يجب ان يأخذها الطفل ومتى

| لا تعرف | تعرف |
|---------|------|
| | السن |
| | |
| | |
| | |
| | |

١- الدرن (حقنة الكتف)

٢- الثلاثي

٣- شلل الاطفال

٤- الكبد الوبائي

٥- الحصبة

٣٣- ما هي فوائد تطعيم الاطفال

٢- تمنع عنه المرض

١- تجعله قوى

٣- لا اعرف

٣٤- هل مستقيم بتطعيم طفلك

٢- لا

١- نعم

KAP Test

استبيان لدرجة معرفة الأم بالمعلومات

الخاصة

بصحة الأم والطفل

وممارستها لهذه المعلومات

اختبار بعدي

- (A/B/C) ١- كود المركز
- (Serial No.) ٢- كود السيدة
- Nurse Trainer or Dr. ٣- كود القائم بالمقابلة
- ٤- تاريخ المقابلة

الجزء الاول : معلومات خاصة بخلفية السيدة والطفل

- ٥- اسم الام
- ٦- عمر ك كام سنة
- تكتب السنوات
٩٩ = لا اعرف
- ٧- آية أعلى مستوى دراسي وصلتى لة
- ١- لم أذهب للمدرسة
- ٢- ابتدائي
- ٣- اعدادي
- ٤- ثانوي
- ٥- ما بعد الثانوي
- ٨- انتى بشتغلى اية
- ١- ربة منزل
- ٢- عاملة
- ٣- موظفة بالحكومة
- ٤- عمل خاص-موظفة بالقطاع الخاص
- ٥- طالبة
- ٦- غيرة (حدد).....

□□□□□□

٩- تاريخ الولادة

□ نكر □ انثى □

١٠- نوع المولود

١١- اسم المولود

□□

١٢- رقم الطفل بالنسبة لاختوته (مقابل للسؤال رقم ٩ فى الاختبار القبلى)

□□

١٣- تحبى تجيبى كام طفل تانى

(نكتب العدد)

٥٥ = ما أقدرش أعدد العدد (حسب ارادة ربنا)

٦٦ = حسب رغبة الزوج

الجزء الثانى : معلومات وممارسات خاصة بالحمل وتنظيم الاسرة :

١٤- هل تحدث معك احد عن منع الحمل او تنظيم الاسرة

□

٢- لا

١- نعم

١٥- من

□

٣- آخر (بذكر)

٢- الطيب

١- المركز

١٦- متى

□

٣- الاثتين

٢- بعد الولادة

١- اثناء الحمل

١٧- هل استخدمت وسيلة لمنع الحمل منذ ولادة هذا الطفل

□

٢- لا

١- نعم

□

١٨- ما هى الوسيلة التى استخدمتها

٦- الحقن

١- الرضاعة

٧- النوربلانت

٢- الأقراص

٨- العزل

٣- اللولب

٤- الوسائل الموضعية للسيدات ٩- فترة الأمان

٥- الوسائل الموضعية للرجال ١٠- اخرى (تذكر)

١٩- هل تستخدمى وسيلة لمنع الحمل الآن

□

٢- لا

١- نعم

(اذا كانت الاجابة بنعم اذهب الى السؤال ١٧)

٢٠- اذا كنت استعملت وسيلة ثم انقطعت لماذا

- ١- لأنى لا ارغب
٢- لأنى لم استريح عليها
٣- لأن زوجى لا يرغب
٤- لأن استعملت وسيلة أخرى
٥- لأنى بأرضع
٦- لأنى أريد طفل آخر
٧- لأن الوسيلة غير متوفرة
٨- أسباب أخرى
تذكر

٢١- ليه مش عاوزة تستعملى وسيلة لمنع الحمل

- ١- لأنى بأرضع
٢- موانع طبيعية
٣- لا زالت غير راغبة
٤- الوسيلة غير متوافرة
٥- افضل الانتظار بعد الطفل القادم
٦- جوزى لا يرغب
٧- اخرى يذكر

٢٢- ما هى الوسيلة التى تستخدمينها الآن

- ١- الرضاعة الطبيعية
٢- الاقراص
٣- اللولب
٤- الوسائل الموضعية للسيدات
٥- الوسائل الموضعية للرجال
٦- الحقن
٧- النوريلانت
٨- العزل
٩- فترة الامان
١٠- اخرى يذكر

٢٣- متى بدأت استخدام الوسيلة

- ١- بعد الولادة مباشرة
٢- على الاربعين
٣- ٣ شهور بعد الولادة
٤- ٤ شهور
٥- ٥ شهور
٦- ٦ شهور
٧- بعد ذلك

٢٤- هل اخبرك الطبيب / الممرضة عن الاشياء التالية

اجابات الام

| نعم | لا | صح | خطأ |
|-----|----|----|-----|
| | | | |
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١- كيف تمنع الوسيلة الحمل

٢- المشاكل الجانبية الممكن حدوثها

| | | | |
|--|--|--|--|
| | | | |
| | | | |

- ٣- تعملى ايه لو حصل اى مشاكل مع الوسيلة
٤- امكانية تغيير الوسيلة لو كنتى مش مستريحة

الجزء الثالث: أسئلة خاصة بالتغذية (الأم والطفل)

٢٥- اية أخبار الأكل معاك

| زائد | ناقص | كما هو |
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- ١- لحوم
٢- بقول
٣- خضار طازج
٤- لبن
٥- خضار مطبوخ
٦- فواكة طازجة
٧- أخرى

٢٦- هل تعرفين فوائد الرضاعة الطبيعية

| |
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| |

- ١- تساعد الطفل على النمو
٢- تمنع عن الطفل الأمراض
٣- تساعد اعلى انقباض الرحم و قلة النزيف
٤- تعمل على المقاربة بين الأم و الطفل

..

٢٧- بعد الولادة - متى بدأت الرضاعة الطبيعية

- ١- بعد ربع ساعة
٢- اول ساعتين
٣- اول ٦ ساعات
٤- أول يوم
٥- اليوم الثانى
٦- اليو الثالث
٧- بعد ذلك

..

٢٨- ما هى الطريقة الصحيحة لأرضاع طفلك

- ١- من كل ثدى مرة
٢- من كلا الثديين كل مرة
٣- حسب الظروف
٤- حتى يشبع
٥- أخرى

٢٩- ما هي المدة التي يجب ان يمكثها الطفل على كل ثدى

- ١- ٥ دقائق
٢- ١٠ دقائق
٣- ربع ساعة
٤- حتى يشبع
٥- أكثر من ربع ساعة
٦- لا أعرف

٣٠- هل رضع طفلك رضاعة طبيعية

- ١- نعم
٢- لا

(اذا كانت الاجابة بلا فاذهب للسؤال رقم ٣٢)

٣١- ما هي الفترة التي رضعها الطفل رضاعة طبيعية فقط (E.B.F)

- ١- أقل من شهر
٢- شهر
٣- شهرين
٤- ٣ شهور
٥- ٤ شهور
٦- ٥ شهور
٧- ٦ شهور
٨- أكثر من ذلك

٣٢- ما هي اسباب عدم الرضاعة الطبيعية (في حالة اجابة السؤال رقم ٣٠ بلا)

- ١- مفيش لبن
٢- لبن قليل
٣- الطفل يرفض الثدي
٤- الشغل يمنعني
٥- اخرى تذكر

٣٣- متى بدأت في اعطاء طفلك اغذية / مشروبات خارجية

- ١- في اول شهر
٢- في ثاني شهر
٣- في ثالث شهر
٤- في رابع شهر
٥- في خامس شهر
٦- في سادس شهر
٧- بعد ذلك
٨- لا انكر متى
ما هي
ما هي
ما هي
ما هي
ما هي
ما هي
ما هي
ماذا اعطيته

الجزء الرابع : معلومات خاصة بالطفل وصحته :

يوم شهر

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جم ك

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٣٧- عمر الطفل بالتحديد يوم الاستبيان

٣٨- وزن الطفل

٣٩- طول الطفل

٤٠- الحالة العامة للطفل

١- جيدة

٢- متوسطة

٣- دون المتوسط

٤١- اصابات الطفل بالامراض المعدية حتى وقت الاستبيان

| عدد المرات | لا | نعم |
|---------------|----|-----|
| | | |
| | | |
| | | |
| | | |
| | | |

١-الاسهال

٢-الكحة

٣- تقيح

٤- الحمى

٥- اخرى تذكر

قبل الولادة Form 1

* Form to filled by the Nurse.For mothers to be during the last trimester of pregnancy.

A/ ارقم الكودى :

اسم السيدة :

B/ or

C/ or

: Expected Delivery Date

| ملاحظات | التغذية | HB | الرسالة | مدة الحمل | التاريخ | رقم الزيارة |
|---------|---------|----|---------|-----------|---------|-------------|
| | | | | | | -١ |
| | | | | | | -٢ |
| | | | | | | -٣ |
| | | | | | | -٤ |

بعد الولادة Form II

* Form to be filled by the Nurse. This Form is for mothers and their infants after delivery

A/ ارقم الكودى :

اسم الام :

B/

اسم الطفل :

C/ or

تاريخ الميلاد :

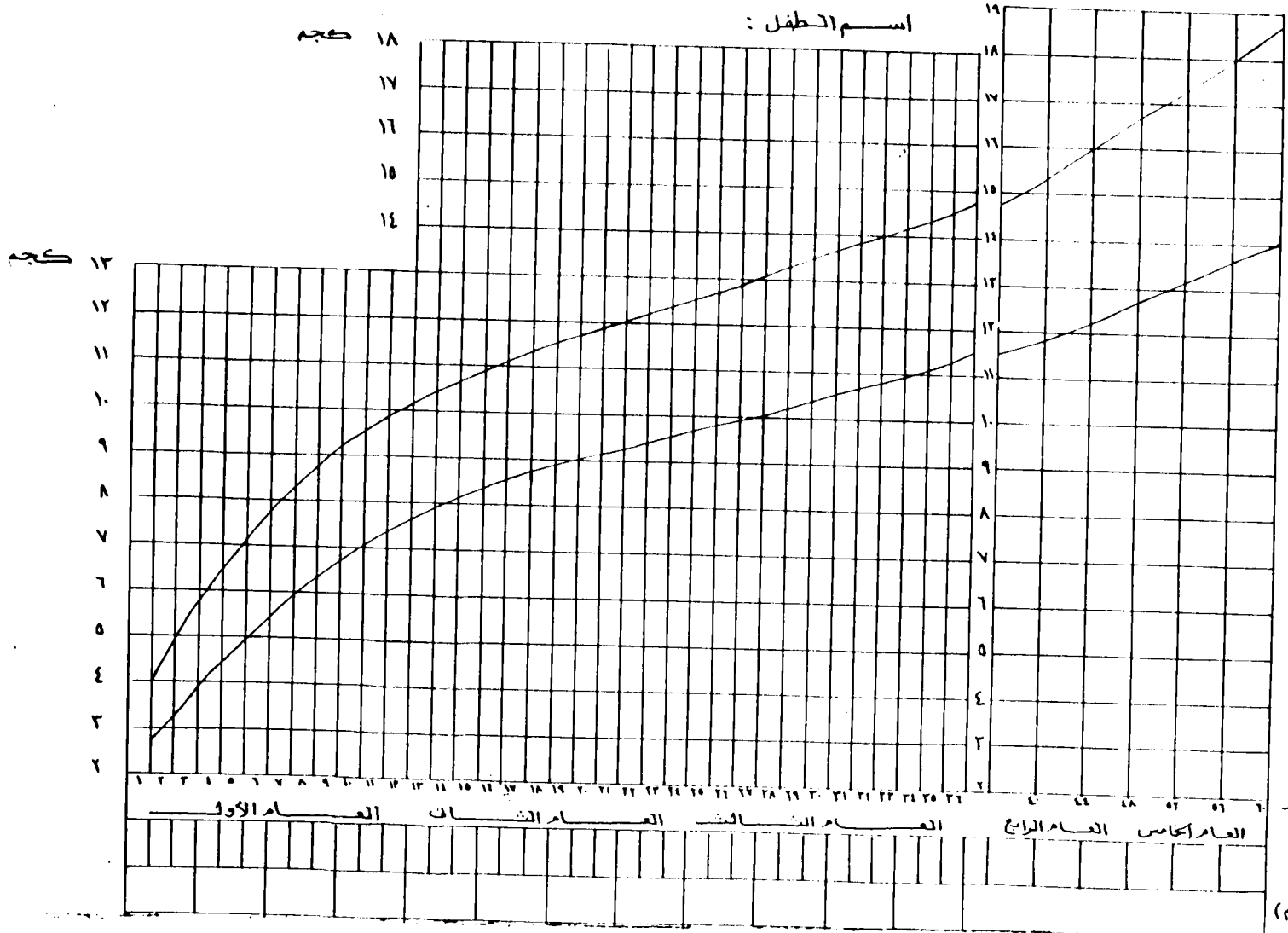
جزء خاص بالام

| ملاحظات | التغذية/الاضافات | | | | | | | الرضاعة الطبيعية | وسائل تنظيم الاسرة | الرسالة | التاريخ | رقم الزيارة |
|---------|------------------|------|------|-----|-----|------|-----|------------------|--------------------|---------|---------|--------------------------------------|
| | لبص | لحوم | زلاى | لين | حمر | فركه | عرب | | | | | |
| | | | | | | | | | | | | ٥- |
| | | | | | | | | | | | | ٦- سن الطفل حوالى ٤ شهور |
| | | | | | | | | | | | | ٧- سن الطفل حوالى ٦ شهور |
| | | | | | | | | | | | | ٨- سن الطفل حوالى ٩ شهور |
| | | | | | | | | | | | | ٩- سن الطفل سنة |

جزء خاص بالطفل

| ملاحظات عامة على الام | ملاحظات عامة على الطفل | التطعيمات | | | | | نمو الطفل | |
|--------------------------|---------------------------|-----------|------------------|--------|--------------|-------|-----------|-------|
| | | اخرى | الحمى الشوكية | الحصبة | ثلاثي DPT | POLJO | الطول | الوزن |
| | | | | | | | | |

« مقاييس النمو الطبيعي للطفل حتى نهاية العام الخامس »



الوزن بالكيلوجرامات

السن بالشهور
الوزن
محيط الرأس (سم)

Mothers Take Home Card

تحتفظ الام بهذا الكارت للمتابعة
Follow up sheet for Mothers to keep

الرقم الكودى :

طريقة الوضع :

الاسم :

الموعد المتوقع للولادة :

جزء خاص بالام

| رقم الزيارة | التاريخ | الرسالة | HB | للتغذية | تطعيم Tetanus | ملاحظات تاريخ الزيارة القادمة |
|-------------|---------|---------|----|---------|------------------|----------------------------------|
| -١ | | | | | | قبل |
| -٢ | | | | | | الولادة |
| -٣ | | | | | | |
| -٤ | | | | | | |

| | | | | | | |
|----|--|--|--|---------|-----------------------|----------------|
| -٥ | | | | للتغذية | وسيلة تنظيم الاسرة | بعد الولادة |
| -٦ | | | | | | |
| -٧ | | | | | | |
| -٨ | | | | | | |
| -٩ | | | | | | |

جزء خاص بالطفل

| ملاحظات | التطعيم | الطول | الوزن | الرضاعة/ التنمية | الرسالة | رقم الزيارة |
|---------|---------|-------|-------|------------------|---------|-------------|
| | | | | | | -٥ |
| | | | | | | -٦ |
| | | | | | | -٧ |
| | | | | | | -٨ |
| | | | | | | -٩ |

List of Materials Used in Preparation of Training Package

1-Breastfeeding Management and Promotion in a Baby-Friendly Hospital. An 18-hour Course For Maternity Staff. UNICEF and WHO. 1993.

2-Breastfeeding Promotion In Practice. Facts For Action For Health Professionals. Baby & Mother Friendly Hospital Initiative. MOH, WHO and UNICEF. 1993

٣-أمراض الجهاز التنفسي الحادة عند الأطفال. الوقاية والعلاج. وزارة الصحة. مشروع الحفاظ على حياة الطفل.

٤-أنت وطفلك. ملحق مجلة الناس و الطب.

٥-الإسهال عند الأطفال . وزارة الصحة. مشروع السكان الثاني. ١٩٨٥.

٦-الأم و الطفل. سلسلة كتب الصحة. دار الثقافة. القاهرة.

٧-البرنامج القومي لمكافحة أمراض الجهاز التنفسي ودورة في خفض معدلات الوفيات بين الأطفال الرضع و أقل من خمس سنوات. وزارة الصحة. مشروع الحفاظ على حياة الطفل. مطوية.

٨-التطعيم ضد الأمراض السبعة المعدية. الوقاية خير من العلاج. وزارة الصحة بالتعاون مع منظمة الأمم المتحدة للأطفال (يونيسف). مطوية.

- ٩-التطعيم ضد التيتانوس التوليدي. الوقاية خير من العلاج. وزارة الصحة بالتعاون مع منظمة الأمم المتحدة للأطفال (يونيسف). مطوية
- ١٠-التطعيم عمليا. دليل البرنامج الموسع للتطعيم للعاملين بمراكز التطعيم. وزارة الصحة. منظمة الأمم المتحدة للأطفال (يونيسف). منظمة الصحة العالمية.
- ١١-الرضاعة الطبيعية حنان و أمان. وزارة الصحة. مشروع الحفاظ على حياة الطفل. الأسبوع العالمي للرضاعة الطبيعية (١-٧ أغسطس ١٩٩٣).
- ١٢-الطفل من اليوم الثالث إلى السنة الثالثة. فلورنس أرنولد ريتشر. ١٩٨٥
- ١٣-القضاء على شلل الأطفال عمليا. دليل العاملين في مجال الصحة. وزارة الصحة. منظمة الأمم المتحدة للأطفال (يونيسف). منظمة الصحة العالمية.
- ١٤-تطوير أساليب تعليم العاملين في الرعاية الصحية. مرشد عملي للتخطيط واتخاذ القرار والتدبير. Fred Abbat and Rosemary McMahan. ميدتو للتنمية و الرعاية الصحية. ١٩٨٩
- ١٥-حقائق للحياة. تحد إعلامي. اليونيسيف و منظمة الصحة العالمية و اليونسكو.
- ١٦-دليل الاختبار الميداني لمواد ووسائل الإعلام في التربية الصحية. بشري جبر. وحدة موارد التربية الصحية. كلية العلوم الصحية. الجامعة الأمريكية في بيروت. ١٩٨٧.
- ١٧-دليل التثقيف الصحي و التنظيم العائلي. الديوان القومي للأسرة و العمران البشري. المملكة الأردنية.

١٨- دليل التغذية. ميدتو للتنمية و الرعاية الصحية. ١٩٩٠.

١٩- دليل تقديم المشورة لاستعمال وسائل تنظيم الأسرة. الجمعية المصرية لرعاية الخصوبة. ١٩٨٨.

٢٠- رعاية الحامل. وزارة الصحة. مشروع السكان الثاني. ١٩٨٥. مطوية.

٢١- س و ج . حقائق و معلومات عن تنظيم الأسرة. مركز الأعلام و التعليم و الاتصال. وزارة الأعلام. الهيئة العامة للاستعلامات.

٢٢- صحة الأم و الطفل. د. مصطفى حمامي. د. محمد نبيل نصار. ١٩٨٥

٢٣- قيادة الرعاية الصحية الأولية. بحوث الصحة العامة. رقم ٨٢. منظمة الصحة العالمية. ١٩٨٩.

٢٤- مكافحة أمراض الإسهال عمليا. دليل العاملين في مجال الصحة. وزارة الصحة. منظمة الأمم المتحدة للأطفال (يونيسف). منظمة الصحة العالمية.

| Session One | Total Hours of Instruction One Hour | | Topic: Mother Nutrition During Pregnancy. | | Serial No: 1 |
|--|--|-------------------------------|---|--|-----------------|
| Objectives | Teaching Content | Time min | Teaching Methods | Media & Materials | |
| <p>Mothers will be able to:</p> <p>1- Identify the necessary types of food for them during pregnancy.</p> <p>2- Recognize different food groups and their nutritive value and importance for both mother and newborn health.</p> <p>3- Differentiate between healthy and unhealthy meals.</p> | <p>* Food groups.</p> <p>* Importance of healthy food for both mother (to be), and fetus before and after delivery.</p> <p>* How to prepare a healthy meal</p> | <p>20</p> <p>20</p> <p>20</p> | <p>*Lecture followed by discussion with mothers.</p> <p>* Exercise and questions on how to construct a healthy meal.</p> <p>* Exercise to recognize a healthy meal from an unhealthy one.</p> | <p>1- Lecture notes.</p> <p>2- Pictures of food groups whenever available.</p> | |

| Session Two | Total Hours of Instruction One Hour | Topic: Breast Feeding, Initiation and Continuation. | | Serial No: 2 |
|---|---|---|---|---|
| Objectives | Teaching Content | Time min | Teaching Methods | Media&Materials |
| <p>Mothers will be able to:</p> <p>1- Identify and recognize the importance of breastfeeding.</p> <p>2- Prepare their breasts for breastfeeding.</p> <p>3- List the advantages of breastfeeding over artificial feeding.</p> <p>4- Demonstrate the proper method of breastfeeding.</p> <p>5- Recognize potential problems of breastfeeding, how to avoid and how to handle.</p> <p>6- Identify the importance of colostrum and when to initiate breastfeeding.</p> | <p>* Advantages of breastfeeding versus artificial feeding: nutritional, preventive and emotional values.</p> <p>* Proper method of breastfeeding.</p> <p>* Exclusive breastfeeding, how to manage.</p> <p>* Prenatal nipple care</p> <p>* Sore nipple, how to avoid and how to manage.</p> | <p>25</p> <p>10</p> <p>5</p> <p>10</p> | <p>* Lecture followed by questions and answers.</p> | <p>* Demonstration by pictures for preparation of breast and proper breastfeeding position.</p> <p>* Lecture notes.</p> |

| Session Three | Total Hours of Instruction One Hour | Topic: Family Planning | | | Serial No: 3 |
|--|--|---|------------------------|--|--|
| Objectives | | Teaching Content | Time | Teaching Methods | Media & Materials |
| Mothers will be able: 1- Recognize the importance of birth spacing for the health of both mother and children. 2- List different family planning methods available in Egypt. 3- Understand the appropriateness of various family planning methods to different women and the importance of physician counseling. | | * Advantage of birth spacing for mother and infant. * Background on various family planning methods. * Breastfeeding and its relation to family planning. | 20 20 20 | * Lecturing and counseling followed by discussion. | *Ministry of Health Flip chart. *Ministry of Information postures. *Ministry of Health family planning methods brochures given to mothers. (T.V. spots could be used if video is available) |

| Session Four | Total Hours of Instruction One Hour | Topic: Infant Nutrition and Weaning | | | Serial No: 4 |
|---|--|--|--|---|--------------|
| Objectives | Teaching Content | Time | Teaching Methods | Media & Materials | |
| <p>Mothers will be able to:</p> <p>1- Identify the right period for exclusive breastfeeding and when to start weaning.</p> <p>2- Identify the right time for introduction of fluids and solids to the infants meals.</p> <p>3- Recognize and list different kinds of weaning food and the proper time for introduction of each.</p> <p>4- Comprehend and practice the importance of cleanliness and sanitation specially when handling food and its impact on the infant well-being.</p> | <p>* Definition of exclusive breastfeeding.</p> <p>* Weaning schedule and how to continue to breastfeed.</p> <p>* Different kinds of weaning food, its nutritious value and when to include in infant's meal and how.</p> <p>* Proper & sanitary food preparation.</p> | <p>5</p> <p>20</p> <p>25</p> <p>10</p> | <p>* Lecture followed by group discussion.</p> | <p>* Lecture notes.</p> <p>* Handouts for weaning schedule.</p> | |

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

المحاضرة الاولى

التغذية أثناء الحمل

ملاحظات عامة :

- ١- مراعاة تناول مواد غذائية تحتوى على الكالسيوم والحديد والفيتامينات
- ٢- تنوع انواع الاطعمة
- ٣- مراعاة تناول كمية كافية من البروتين والسوائل
- ٤- مراعاة تناول الاطعمة التى تبني الجسم وتقويه، وتحمى الجسم من الامراض
- ٥- مراعاة عدم الافراط فى تناول الاطعمة الدهنية والسكرية

المكونات الغذائية وقيمتها الصحية :

١- البروتينات :

العدس - الفول - الحمص - اللوبيا .

وتساعد البروتينات على بناء الجسم وتجديد خلاياه

٢- المواد النشوية والسكرية :

الخبز - البطاطس - الارز - السكر - الحلويات

وتساعد المواد النشوية والسكرية على امداد الجسم بالطاقة والحرارة .

٣- المواد الدهنية :

الزيتون - الدهون

وتعطى المواد الدهنية الطاقة والحرارة والزائد يخزن تحت الجلد ، ويسبب السمنة

٤- الاملاح المعدنية :

أ- ملح الطعام والحديد ، وتوجد فى اللحوم والخضروات

ب- الكالسيوم ويوجد فى اللبن ومشتقاته

وتساعد الاملاح المعدنية على تكوين كرات الدم والعظام والاسنان

٥- الفيتامينات :

الخضروات - الفاكهة - اللبن

وتعتبر الفيتامينات مهمة لحيوية الجسم ووقاية ضد الامراض المختلفة.

وتلخيصا لذلك:

١- الاكل الذى يبنى الجسم ويقويه

أ- اللبن ومنتجاته :

مثل الجبن القريش ، اللبن الرايب ، الزبادى

يلزم تناول كوب لبن يوميا على الاقل او جبن غير مملح

ب- اللحوم والبيض :

يساعد على نمو الجنين ويساعد الام اثناء الحمل على الاحتفاظ بالصحة والحيوية وتجديد الخلايا .

٣- الاكل الذي يحمي الجسم من الامراض

- أ- الخضروات : الحلبة - السبانخ - البقدونس - الكوسة - الخس - الطماطم - الجرجير - الفجل - الفلفل الاخضر - البصل - الجزر
- ب- الفاكهة : البرتقال - اليوسفي - الجوافة - البطاطا

٣- الاكل الذي يمنع فقر الدم

- الحبوب والفواكه المجففة - الفول السوداني - الشعير - العسل الاسود - خبز برودة - كبدية - مخ - قلب .

ملحوظات وممنوعات :

- ١- عدم الاكثار من اكل المواد الدهنية والدسمة
- ٢- الاقلال من اكل الاطعمة زائدة الملوحة مثل المخلل
- ٣- عدم القيام بالاشغال العنيفة في المنزل
- ٤- ممارسة الرياضة الخفيفة كالمشي
- ٥- عدم لبس الكعب العالي او الملابس الضيقة
- ٦- عدم الوقوف لمدة طويلة متصلة
- ٧- عدم تناول الادوية مطلقا بدون استشارة الطبيب مع الراحة وسط النهار لمدة نصف ساعة

دور المدربة

- ١- تعرض المدربة الموضوع باختصار بعد تقديم نفسها للحاضرات وتقديمهم لها
- ٢- تقوم المدربة بسؤال بعض الحاضرات عن موضوع الندوة لادراك مدى معرفتهم بها
- ٣- المشاركة بالسؤال والاجابة مع الحاضرات
- ٤- الاستدلال بالأمثلة كلما امكن
- ٥- تقوم المدربة بإعطاء أمثلة للوجبات الصحية فى الافطار والغذاء والعشاء .
- ٦- فى نهاية المحاضرة تقوم المدربة بإعطاء أمثلة لغذاء يوم كامل ، وعلى الحاضرات تقييم هذا الغذاء (صحى او غير صحى) ، وتصحيح الغذاء الغير صحى .

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

المحاضرة الثانية

الرضاعة الطبيعية

* فوائد الرضاعة الطبيعية :

- ١- تحمي الطفل من الاسهال وسوء التغذية ، ويجب ان تستمر في حالة الاسهال والمزلات الشعبية كوقاية وعلاج
- ٢- تساعد على النمو الجسماني والذهني والعاطفي والنفسي
- ٣- تحميك انتي من النزيف بعد الولادة ومن سرطان الثدي

* لبن الام يتميز بما يلي :

- ١- عناصر غذائية ومناعية كافية وملئمة لحاجة الطفل في مختلف مراحل عمره
- ٢- سهل الهضم ومعقم وموجود في اى وقت دافئ واقتصادي - يفي باحتياجات الجسم صيفا وشتاء
- ٣- الاطفال الذين يرضعون طبيعيا اكثر ذكاء واكل عرضة لالامراض النفسية والعاطفية
- ٤- وقاية من الامراض الحادة التي تؤدي الى الوفاة مثل الاسهال والالتهاب الرئوى
- ٥- لبن الام وقاية من امراض الحساسية وبعض الامراض المزمنة مثل السكر والسرطان
- ٦- حماية الام من نزيف بعد الولادة

* ادخال اللبن الصناعي او اغذية اخرى قبل ستة اشهر يؤدي الى :

- ١- أمراض الجفاف والاسهال وسوء التغذية
- ٢- النزلات الشعبية والالتهاب الرئوى وحساسية الصدر والجهاز الهضمى والجلد
- ٣- الكساح وتسوس الاسنان
- ٤- فقر الدم ونقص فيتامينات (أ) الذى يؤثر على قوة الابصار
- ٥- نقص المناعة مما يؤدي الى الالتهابات والامراض
- ٦- الاسهال المزمن وامراض القولون المزمنة والسكر
- ٧- الاضطرابات السلوكية

* تنبيهات للام :

- ١- يجب ان تبدأ الرضاعة الطبيعية خلال نصف ساعة من الولادة مع اهمية تلامس جسم الام بطفلها لمدة ساعة على الاقل
- ٢- عدم اعطاء الطفل اى محاليل سكرية او بزازات حتى لا يرفض الثدي ويستفيد من لبن السرسوب الذى يحتوى على مواد صناعية كثيرة ومتنوعة تقى الطفل من العدوى والحساسية وتمنع حدوث اليرقان ويقى من امراض العيون وهو كل ما يحتاجه الطفل فى ايامه الاولى فهو سائل مناعى وغذاء كامل فريد فى تركيبته الالهية .

٣- الرضاعة الطبيعية عند الطفل ليلا ونهارا وتلازم الطفل والام فى سرير واحد او غرفة واحدة .

٤- ايقاظ الطفل اذا نام مدة طويلة (اكثر من ٣ ساعات) ليرضع اذا احتت الام بامتلاء الثدي ويمنع ذلك حدوث مشكلات الثدي

٥- اعطاء الطفل الالبان الصناعية او الاعشاب كاليانسون والكرابوية يعرضه للنزلات المعوية والمغص

٦- اعطاء الطفل اغذية تكميلية قبل موعدها يضعف انتاج اللبن ويؤثر سلبيا على نمو الطفل

٧- اهرصى على الرضاعة الطبيعية المطلقة منذ الولادة وحتى سن ٦ شهور

* كيفية الاستعداد للرضاعة الطبيعية :

١- التغذية الصحيحة اثناء الحمل وعلاج فقر الدم

٢- العناية بالثدي والحلمات وتدليكها يوميا بالفازلين وشدها للخارج

٣- بداية الرضاعة الطبيعية بعد نصف ساعة من الولادة او من الافاقة من التخدير فى حالات

القيصرية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

المحاضرة الثالثة

الطعام

• قواعد الصحة العامة عند تحضير واعداد اطعمة الطفل :

- ١- تعليم الاظافر والعناية بنظافتها
- ٢- غسل اليدين بالماء والصابون قبل تحضير او تقديم الطعام الى الطفل
- ٣- غسل الاطعمة جيدا وخصوصا ما يؤكل منها طازج
- ٤- غسل اواني الطهي والتقديم غسلا جيدا
- ٥- طهي الطعام جيدا
- ٦- تغطية الطعام والمحافظة عليه من التلوث
- ٧- تحضير الاطعمة اولا بأول والاستغناء عمى تبقى

• كيفية ادخال الاطعمة المكملة لغذاء الطفل:

- ١- يجب استمرار اعطاء الطفل ثدى الام لان هذه الاطعمة تكملية للبن الام وتعويد الطفل عليها تدريجيا وليست بديلا للبن الام فى هذه الفترة المستحب امتدادها لمدة عامين
- ٢- يجب ان يتم ادخال الاطعمة بالتدرج مع تعويد الطفل عليها واعطاؤه مهلة للتخوق والتعود ويراعى ان تزداد الكمية تدريجيا حتى يستطيع الطفل فى نهاية العام الاول مشاركة الاسرة طعامها .

فمثلا نبدأ بملا ملعقة صغيرة ثم اثنين ثم ثلاثة وهكذا حتى نصل الى الكمية المناسبة

لسن الطغب وهى ثلاث ملاعق كبيرة او اكثر اذا رغب فى ذلك

٣- يجب مراعاة التوقيت المناسب لادخال الاطعمة المكملة كالاتى :

اولا : يجب تقديم الطعام الجديد والطفل مهياً نفسياً وغير مريض وفى السن المناسب

ثانيا : يجب ان يقدم للطفل قبل الرضاعة اول مرة حتى يستسيغه وهو جوعان

ثالثا : بعد ان يتعود عليه يقدم الطعام بعد اكتفائه من الرضاعة لضمان الاستفادة بلبس

الام

٤- مراعاة تناسب قوام الطعام للطفل على ان يبدأ بالطعام السائل واللين ثم الطعام الاغظ

قواما

٥- مراعاة طهى الطعام جيدا قبل تقديمه لضمان سهولة حفظه وقتل الميكروبات واكسابه

الطعم المناسب

٦- استعمال الملعقة والطبق والكوب والفنجان فى اطعام الطفل وعدم استعمال الزجاجاة

لصعوبة تنظيفها وصعوبة تعود الطفل على الملعقة اذا تعود على الزجاجاة

٧- تقديم الطعام فى شكل مقبول وجذاب واستعمال ادوات للاكل ذات اشكال جذابة للطفل

واحجام مناسبة

٨- يفضل تقديم بعض العصائر مثل البرتقال والليمون او الموز مع الاطعمة المقدمة مع

مراعاة التدرج فى التركيز

٩- الاقلال من السكر والملح فى وجبات الطفل

السكر قد يسبب المغص وقد شهية الطفل للرضاعة الطبيعية

والملح غير ضرورى لان لبن الام يفى باحتياجات الرضيع من الاملاح

* أطفمة الشهر السابع (أو اول شهر فى الغطام)

- مهلبية
- صفار البيض (البذا بربع صفار بيضة مسلوقة مدعوكة فى ملعقة لبن ثم التدرج حتى يأكل صفار البيضة كلها)
ويأكل المهلبية و صفار البيض مع رضعة الضحى
(الرضعة الثانية)

- عصير البرتقال : بين الرضعة الاولى والقانية
- عصير الطماطم
- ارز مسلووق "ممكن"
- زبادى منزوع النسم

* أطفمة الشهر الثامن (أو ثانى شهر فى الغطام)

- عصير برتقال
- عصير طماطم
- شوربة خضار : مهروسة بالشوكة جيدا وبدون ملح
وتحتوى على جزر - كوسة - بسله - ارز - سبانخ
تسلق فى الماء بدون ملح ويدعك جيدا بالشوكة ويعطى الطفل فى اول مرة ملء ملعقة صغيرة ثم تزيد الكمية بالتدرج
إذا ظهر الخضار غير مهضوم فى البراز فى اول مرة

زيدى الكمية ببطء حتى يتعود على هضمه

يأخذ هذه الوجبة فى حوالى الساعة الثانية بعد الرضعة الثانية

* أطعمة الشهر التاسع (او ثالث شهر فى الفطام)

الطفل فى هذه السن يستطيع ان يجلس وحده ويستطيع ان يأكل وحده بالمعلقة ويشرب

اللبن بالكوب

اعطيه ملعقة فى يده وانتي تطعميه المهلبية او شوربة الخضار لكى يحاول ان يطعم

نفسه وكذلك عند شرب اللبن اعطيه قبيلا من اللبن فى الكوب

الافطار : مهلبية

صفار بيضة مدعوكة باللبن

كوب من اللبن (ممكن ثلاثة ارباع لبن وربع ماء مغلى)

الضحى : كوب صغير عصير برتقال

الغذاء : ثلاث ملاعق كبيرة خضار مدهوك شوربة خضار (مسلوق مع قطعة فرخة او لحم

احمر) وكوب لبن

العشاء : شوربة عدس او ثلاث ملاعق فول مدمس مدهوك بدون قشر مع وضع عصير

ليمون وقليل من الملح

مع مراعاة ان يجرب الطفل الطعام لاول مرة قبل الرضعة حتى يستطيعه اما بعد ذلك

فيكون دائما الاطعام بعد الرضاعة الطبيعية حتى يستفيد من لبن الام لأقصى درجة

* غذاء الطفل في الشهر العاشر وحتى الشهر الثاني عشر

دائماً تبدأ الام بتجربة الصنف الجديد قبل الرضعة وعندما يتعود الطفل على طعمه

يكون بعد الرضعة حتى يشبع من لبن الام

تحذف رضعة الضحى وتمتبدل باللبن بالكوب

ثم بعد اسبوع احنفي رضعة المساء واعطيه اللبن بالكوب

- عصير برتقال
- عصير طماطم
- موز مهروس
- شوربة خضار
- ارز + عدس
- فول منزوع القشر
- سبانخ او جزر او كوسة
- كبدة مسلوقة او فراخ او بيض او سمك او لحم احمر مسلوق

List of Background Materials Used to Support Mother Counseling

***A Mother's Guide to Breastfeeding. Booklet produced by PATH to the Population Council in cooperation with the Nursing Department at Metropolitan Hospital.**

***Empowering Women to Breastfeed- Guidelines For Action. World Breastfeeding Week. 1-7 August 1995. Ministry of Health- Egypt.**

***الطفل أمانة. التطعيم وقاية. وزارة الصحة- مشروع الحفاظ على حياة الطفل. البرنامج الموسع للتطعيمات.**

A Simplified booklet printed by UNICEF

***الإسهال**

A simplified booklet printed by UNICEF

***الصحة العامة**

A simplified booklet printed by UNICEF

***التغذية**

A leaflet printed by UNICEF

***الإسهال والجفاف**

***الدليل الصحي للأسرة - الجمعية المصرية لنشر المعرفة والثقافة العالمية**

***الرعاية الصحية للحوامل - د. عادل القاضي.**

***التغذية في الرعاية الصحية الأساسية- دليل الفريق الصحي للتغذية في الرعاية الصحية الأساسية**

وزارة الصحة- مشروع الحفاظ على حياة الطفل

***كيف تطعمين طفلك**

وزارة الصحة- مشروع الحفاظ على حياة الطفل

* دليل الأم للرضاعة الطبيعية- مبادرة المستشفيات صديقة الطفل الرضيع لحماية و تشجيع الرضاعة الطبيعية- وزارة الصحة- منظمة الصحة العالمية- منظمة الأمم المتحدة للأطفال.

*تحصين الأطفال- وزارة الصحة- مشروع السكان الثانى.

* دليل المشورة فى تنظيم الأسرة- مشروع تنمية النظم الثانى لتنظيم الأسرة- وزارة الصحة و الهيئة العامة للاستعلامات Flip Chart for mother counseling on family planning .

List of Client Materials Distributed to Mothers during Sessions

الإسهال.....خطر على صحة أطفالنا

Leaflet printed by UNICEF

مطويات خاصة بالمشورة فى اختيار وسيلة لتنظيم الأسرة:

١- اللولب.

٢- الوسائل الموضعية.

٣- الأقراص بالفم.

٤- حقن تنظيم الأسرة.

ملخص الطريقة الصحيحة للفظام (مرفق صورة).

غذاء الطفل في الشهر العاشر وحتى الشهر الثاني عشر

دائماً تبدأ الام بتجربة الصنف الجديد قبل الرضعة وعندما يتعود الطفل على طعامه يكون بعد الرضعة حتى يشبع من لبن الام .

تحذف رضعة الضحى وتستبدل باللبن بالكوب

ثم بعد اسبوع احذفى رضعة المساء واعطيه اللبن بالكوب

• عصير البرتقال

• عصير طماطم

• موز مهروس

• شوربة خضار

• ارز + عدس

• فول منزوع القشرة

• سبانخ او جزر او كوسة

• كبدة مسلوقة اة فراخ او بيض او سمك او لحم احمر مسلوق

اطعمة الشهر السابع (او اول شهر في الفطام)

• مهلبية

• صفار البيض (البدا بربع صفار بيضة مسلوقة مدعوكة في

ملعقة لبن ثم التدرج حتى يأكل صفار البيضة كلها)

يأكل المهلبية و صفار البيض مع رضعة الضحى

(الرضعة الثانية)

• عصير البرتقال : بين الرضعة الاولى والثانية

• عصير طماطم

• ارز مسلوق " ممكن"

• زبادى منزوع الدسم

اطعمة الشهر الثامن (او ثانى شهر بعد الفطام)

- عصير برتقال
- عصير طماطم
- شوربة خضار : مهروسة بالشوكة جيدا وبدون ملح وتحتوى على جزر - كوسة - بسلة - ارز - سبانخ
- تسلق فى الماء بدون ملح وتدعك جيدا بالشوكة ويعطى الطفل فى اول مرة ملء ملعقة صغيرة ثم تزيد الكمية بالتدريج
- اذا ظهر الخضار غير مهضوم فى البراز فى اول مرة زيدى الكية ببطأ حتى يتعود هضمه
- يأخذ هذه الوجبة فى حوالى الساعة الثانية بعد الرضعة الثانية .

اطعمة الشهر التاسع (او ثالث شهر فى الفطام) :

- الطفل فى هذه السن يستطيع ان يجلس وحده ويستطيع ان يأكل وحده بالمعلقة ويشرب اللبن بالكوب اعطيه ملعقة فى يده وانتي تطعميه المهلبية او شوربة الخضار لكى يحاول ان يطعم نفسه وكذلك عند شرب اللبن اعطيه قبيلا من اللبن فى الكوب
- الافطار : مهلبية
صفار بيضة مدعوكه باللبن
كوب من اللبن (ممكن ثلاثة ارباع لبن وربع ماء مغلى)
- الضحى : كوب صغير عصير برتقال
- الغذاء : ثلاث ملاعق كبيرة خضار مدهوك شوربة خضار (مسلوق مع قطعة فرخة او لحم احمر) وكوب لبن
- العشاء : شوربة عدس او ثلاث ملاعق فول مدمس مدهوك بدون قشر مع وضع عصير ليمون وقليل من الملح
- مع مراعاة ان يجرب الطفل الطعام لاول مرة قبل الرضعة حتى يستطيعه اما بعد ذلك فيكون دائما الاطعام بعد الرضاعة الطبيعية حتى يستفيد من لبن الام لأقصى درجة

**List of postures posted on walls of the MCH center
during study to support mother counselling
(Ministry of Information/ State Information Service/ Information
Education and Communication Center)**

١ - صحة الأسرة و سعادتها بكلمتك مع كلمتها.

٢ - الطفل مسؤولة.

٣ - أسرة صغيرة حياة أفضل.

٤ - منورة و عايزنها متنورة.

٥ - الراجل مش بس بكلمته.....الراجل برعايته لبيتة و أسرته.

List of Additional Bibliography

- ١- الأطفال أولا . الإعلان العالمي لبقاء الطفل و حمايته و نمائه و خطة العمل (كما أقرها مؤتمر القمة العالمي من أجل الطفل). اتفاقية حقوق الطفل . يونيسف.
- ٢- الأطفال من أجل الصحة. الأطفال كشركاء في نشر معارف حقائق للحياة. جمعية من طفل إلى طفل بالتعاون مع اليونيسف. ١٩٩٣.
- ٣- السكان و الغذاء و التغذية في الدول العربية. منظمة الأغذية و الزراعة للأمم المتحدة. المكتب الإقليمي للشرق الأدنى. ١٩٩٣.
- ٤- السكان....قنبلة مصر الموقوتة. التسعينات .مركز الأعلام و التعليم و الاتصال. وزارة الأعلام. الهيئة العامة للاستعلامات. ١٩٨٨.
- ٥- الطفولة. المكون السكاني الأولى بالرعاية د. لطف الله إمام صالح. مركز الأعلام و التعليم و الاتصال. وزارة الأعلام. الهيئة العامة للاستعلامات. ١٩٩٤.
- ٦- المشكلة السكانية في مصر. في الماضي...في الحاضر...في المستقبل. المجلس القومي للسكان.
- ٧- تنظيم الأسرة يحفظ الحياة. استراتيجية للحفاظ على حياة الأم و الطفل. أمباكت. مكتب الإحصاء السكاني. ١٩٨٦.
- ٨- حرب التسعينات .مركز الأعلام و التعليم و الاتصال. وزارة الأعلام. الهيئة العامة للاستعلامات. ١٩٨٩.

٩- دليل الغذاء الصحي للأسرة المصرية. معهد التغذية. ج.م.ع. ١٩٩٦.

١٠- دليل الممرضة في برنامج أمراض الجهاز التنفسي الحادة. مشروع الحفاظ على حياة الطفل.

* يونسف في مصر. ١٩٩٠

١١-الخطر القاتل أثناء الحمل و الولادة. الجمعية المصرية لرعاية الخصوبة.

12-Child Survival Project in Cooperation with USAID. Ministry of Health. Leaflet.

13-Control of Acute Respiratory Infections in Practice. A Manual For Physicians. MOH & WHO/EMRO & UNICEF.

14-CSP News. Child Survival Project. Issue No. 2/92. Feb/Mar 1992.

15-Daya Training Program. Trainer's Guide. Child Survival Project.

16-Egypt Male Survey 1991. Cairo Demographic Center. Demographic and Health Surveys. Macro International Inc.

17-The Impact of The Minya IEC Initiative. Center For Communication Programs. Johns Hopkins School of Public Health. Project Report May 1994.

Immunization Schedule According to the Ministry of Health

| العمر | التطعيم | الجرعة | طريقة الحقن |
|---------------------------|--|--------------------------------------|---|
| أربعون يوماً | الدرن (جرعة واحدة) | ٥..٠٠ ملليتر | في الجلد أعلى الذراع الأيسر |
| شهران | شلل الأطفال (جرعة أولى) الطعم الثلاثي (جرعة أولى) التهاب الكبدى (جرعة أولى) | نقطتان ٥..٠ ملليتر ٥..٠ ملليتر | على اللسان فى العض بالفخذ الأيسر فى العض بالفخذ الأيمن |
| ٤ شهور | شلل الأطفال (جرعة ثانية) الطعم الثلاثي (جرعة ثانية) التهاب الكبدى (جرعة ثانية) | نقطتان ٥..٠ ملليتر ٥..٠ ملليتر | على اللسان فى العض بالفخذ الأيسر فى العض بالفخذ الأيمن |
| ٦ شهور | شلل الأطفال (جرعة ثالثة) الطعم الثلاثي (جرعة ثالثة) التهاب الكبدى (جرعة ثالثة) | نقطتان ٥..٠ ملليتر ٥..٠ ملليتر | على اللسان فى العض بالفخذ الأيسر فى العض بالفخذ الأيمن |
| ٩ شهور | الحصبة (جرعة واحدة) شلل الأطفال (جرعة رابعة) | ٥..٠ ملليتر نقطتان | تحت الجلد بالذراع الأيمن على اللسان |
| من سنة و نصف الى سنتين | شلل الأطفال (جرعة منشطة) الطعم الثلاثي (جرعة منشطة) | نقطتان ٥..٠ ملليتر | على اللسان فى العض بالفخذ الأيسر |

Glossary of Terms

- Childbearing Years:** The reproductive age span of women, arbitrarily assumed for statistical purposes to be 15-44 years in the U.S. In other countries, the range is often 15-49 years.
- Family Planning :** The conscious effect of couples to regulate the number and spacing of births. Family planning usually connotes the use of birth control to avoid pregnancy, but also includes efforts of couples to induce pregnancy.
- Growth Rate :** The rate at which a population is increasing (or decreasing) in a given year due to natural increase and net migration, expressed as a percentage of the base population.
- Health :** A state of complete physical, mental and social well-being and not merely the absence of disease and infirmity”.
- Human Development Index:** It is a new index developed by UNDP. It measures human development with three components: Life expectancy at birth, educational attainment and income.
- Infant Mortality Rate:** The number of deaths to infants under one year of age in a given year per 1,000 live births in that year.
- Maternal Death :** The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration or site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental causes. Thus, a death from complications of induced abortion is a maternal death, since it is considered to be due to the “management” of the pregnancy.

Maternal Mortality : The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes (WHO,1977).

Maternal Mortality Ratio: The number of maternal deaths per 100,000 live births per year.

Maternal Morality Rate: The number of maternal deaths per 100,000 women or reproductive age per year.

Neonatal Mortality Rate: The numbers of deaths to infants under 28 days of age in a given year per 1,000 live births in that year.

Operations Research (OR): The application of various research techniques to develop, test and recommend solutions to operational problems

Perinatal care : It is the provision of care of pregnant women during delivery and right after.

Postnatal care : It is the provision of care for the woman after delivery and up to the end of the purperium (42 days after delivery).

Prenatal Care :It is the provision of care for the pregnant woman throughout her pregnancy.

Primary Health Care: The essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that

the community and country can afford in the spirit of self-reliance and determination.

Primary Health Education: It is health education directed at healthy people, and aims to prevent ill-health arising in the first place. It is concerned not merely with helping to prevent illness, but with positively improving the quality of health and thus the quality of life.

Replacement Level Fertility: The level of fertility at which a cohort of women on the average are having only enough daughters to “replace” themselves in the population. By definition, replacement level is equal to a net reproduction rate of 1.00. The total fertility rate is also used to indicate replacement level fertility; in developed countries today TFR of 2.1 is considered to be replacement level.

Reproductive Health: A condition in which the reproductive process is accomplished in a state of complete physical, mental and social well-being and is not merely the absence of disease or disorders of the reproductive process.

Social Marketing: The application of marketing principles to solving social problems.

The Convention on the Rights of the Child (CRC): The most widely ratified UN convention (168 countries as of end-1994). Ratifying the CRC commits a nation to the protection and development of its children and to a process of monitoring and reporting on its implementation of the CRC. The Convention is an international blueprint for sound social development beyond the Mid-Decade and Year 2000 Goals.

Arabic Summary

الملخص العربي

تمهيد و تعريف بالمشكلة:

صحة الأم و تغذيتها و تعليمها هامة لحياء و سلامة الأمهات في حد ذاتها و محددات رئيسية لسلامة الطفل في طفولته المبكرة.

أطفال اليوم هم مواطنو عالم الغد، و حياتهم ووقايتهم و افضل تنمية لهم تعتبر هي الأمل المنشود لتنمية الإنسانية المستقبلية.

طبقا للمسح الصحي و الديموجرافي المصري في ١٩٩٥ كانت وفيات الأطفال ١٠٠٠/٦٣ ووفيات حديثي الولادة ١٠٠٠/٣٠ و هذا يبين أن أكثر من ثلاثة أرباع وفيات الأطفال المبكرة في مصر تحدث في عامهم الأول.

و بينت دراسات منظمة الطفولة العالمية (اليونيسيف) أن المباعضة بين الولادات و الرضاعة الطبيعية المطلقة خلال ٤-٦ أشهر الأولى تقلل كثيرا كلا من وفيات الطفولة و أمراضها في البلدان النامية. و بمعرفة هذه الحقائق، تبرز أهمية أسبقية صحة الأم و الطفل و تنظيم الأسرة كأسبقيات في تخطيط السياسات الصحية المصرية و الخطة الخمسية الحالية.

الافتراض:

حياة الطفل وثيقة الصلة بتوقيت و فواصل و عدد ولادات أمه. و هناك عامل آخر وثيق الاتصال بحياة الطفل هو الرضاعة الطبيعية المطلقة للأربعة إلي الستة أشهر الأولى. و فضلا عن ذلك، فمواصلة مراقبة نمو الأطفال خلال عامهم الأول ستساعد على الوقاية المبكرة من الأمراض و سوء التغذية. و يساعد و عى الأم بمفاهيم، تنظيم الأسرة، و الرضاعة الطبيعية المطلقة و تغذية الطفل، بصورة متكاملة، على حفز نمو الطفل و تطوره و بذلك تنخفض المعدلات العالية الحلية لوفيات الأطفال و أمراضهم بمصر.

و الهدف الرئيسي لهذه الدراسة هو اختبار فاعلية و امكانية تطبيق "برنامج تعليم الأمهات" في الظروف الحالية بمراكز رعاية الأمومة و الطفولة لوزارة الصحة و بناء عليه اختبار أثرها على مستوى معرفة الأم و ممارستها لتنظيم الأسرة و الرضاعة الطبيعية المطلقة و الفطام.

أسلوب الدراسة ووسائلها:

أجريت الدراسة خلال الفترة من مارس ١٩٩٦ إلي أغسطس ١٩٩٧ في مركزين لرعاية الأمومة و الطفولة، بينما أتخذ مركز ثالث كمرجع للمقارنة. و أجابت مجموعات الدراسة و المقارنة على أستبيان قبل و بعد تطبيق خطة البحث.

وبعد إتمام الاستبيان قبل تطبيق خطة البحث ، لكل من مجموعات الدراسة والمقارنة (١٩٠) سيدة لمجموعة الدراسة و ١٣٣ سيدة لمجموعة المقارنة) و تم فتح ملف لكل سيدة من مجموعة البحث. و أحتوى الملف ورقة متابعة ما قبل الولادة و ورقة متابعة ما بعد الولادة وورقة متابعة نمو الطفل. و علاوة على ذلك أعطيت كل سيدة بطاقة "منزلية" لتدوين بيانات المتابعة للأم و طفلها.

و كانت خطة البحث تطبيق برنامج تعليم للأمهات و متابعة لمائة سيدة من الثلث الأخير للحمل وخلال الفترة من ٦ إلى ١٢ شهرا من عمر الطفل. و قد صمم هذا البرنامج التعليمي خصيصا لهذه الدراسة و تم تدعيمه بالمواد المتاحة حاليا للتعليم و المشورة لوزارة الصحة، و المجلس القومي للسكان و المنظمات الدولية كالصحة العالمية و اليونيسيف و المعونة الأمريكية، و مشاريع الحفاظ على حياة الطفل و تنظيم الأسرة. و كانت الموضوعات الرئيسية لبرنامج تعليم الأمهات هي، تغذية الأم أثناء الحمل، تنظيم الأسرة، الرضاعة الطبيعية المطلقة و الفطام الصحيح. و قد أختبرت الدراسة مدى عملية و تأثير هذا البرنامج التعليمي المتكامل على مستوى معلومات الأم و ممارسة تنظيم الأسرة و الرضاعة و الفطام.

و في نهاية الدراسة، نظم استطلاع بعد، لكل من مجموعتي الدراسة و المقارنة، و علاوة على ذلك وزن و قياس أطفال المجموعتين.

النتائج:

أظهرت المقارنة بين استطلاعي قبل و بعد البحث لكلا مجموعتي البحث و المقارنة فضلا عن تحليل أوراق المتابعة (لمجموعة الدراسة) ما يلي:

١- أظهر تحليل النتائج اختلافا إحصائيا يعتد به في المستوى التعليمي بين مجموعتي الدراسة و المقارنة. كانت الأمية أعلى في مجموعة الدراسة، بينما كانت الدراسة الثانوية أعلى في مجموعة المقارنة.

٢- تعرضت أمهات مجموعة الدراسة للاتصال الشخصي و المشورة أكثر في تنظيم الأسرة عنها بالنسبة لمجموعة المقارنة ٩٦,٣٪ مقابل ٢٩,٣٪.

٣- وجد اختلاف إحصائي يعتد به بين مجموعتي الدراسة و المقارنة في ممارسة تنظيم الأسرة (٨٥٪ من مجموعة الدراسة مقابل ٧٩٪ من مجموعة المقارنة و لم يوجد فرق بين المجموعتين في معدل الحمل التالي.

٤- كان اللولب أكثر الطرق استعمالا لكلا مجموعتي الدراسة و المقارنة. و استعملت الحقن أكثر لمجموعة الدراسة بينما كانت الحبوب أكثر استعمالا في مجموعة المقارنة.

٥- عند مقارنة الاستخدام الفعلي لمجموعة الدراسة للوسائل الأكيدة لتنظيم الأسرة (الحبوب، اللولب، الحقن) بما كن يوبن استخدامه، ظهر تحسن ملحوظ يعتد به. فبينما اعتمدت ٥٨ سيدة استعمال وسيلة أكيدة عند الاستطلاع الابتدائي، فقد استعملت ٧٧ واحدة فعلا طريقة أكيدة، (تحسن ٣٧,٩٪). و علاوة

على ذلك فقد ظهر اختلاف إحصائي يعتد به بين مجموعتي الدراسة و المقارنة في استعمال وسيلة أكيدة.

٦- كشف تحليل استطلاع بعد البحث أن ٠,٩٪ من مجموعة الدراسة (أم واحدة) مقارنة ب ٤,٦٪ من مجموعة المقارنة (خمس أمهات) لم يرضعن مطلقا. و علاوة على ذلك فقد ظهر اختلاف إحصائي يعتد به بين مجموعتي الدراسة و المقارنة فيما يتعلق بمعرفة فوائد الرضاعة الطبيعية، ٧٤,٨٪ من مجموعة الدراسة عرفن ثلاث منها على الأقل، بينما لم تعرف سوى ٣,٧٪ فقط من مجموعة المقارنة مثل هذا العدد من المزايا. كذلك أظهر وقت المبادرة ببدء الرضاعة الطبيعية اختلافا إحصائيا يعتد به بين المجموعتين. ٣٣٪ من مجموعة الدراسة مقابل ١٢٪ من مجموعة المقارنة بدأن الرضاعة الطبيعية خلال النصف ساعة الأولى بعد الولادة. و أظهرت النتائج أن أمهات مجموعة الدراسة استمررن في الرضاعة الطبيعية لفترات أطول من مجموعة المقارنة.

٧- أظهر تحليل أوراق المتابعة لمجموعة الدراسة مع استبيان ما بعد البحث لكلا مجموعتي الدراسة و المقارنة اختلافا إحصائيا يعتد به بين المجموعتين بالنسبة للرضاعة الطبيعية المطلقة خلال الأربعة أشهر الأولى. ٧٠٪ أما من مجموعة الدراسة (٦٥,٤٪) مقابل ٢٣٪ من مجموعة المقارنة (٢١,١٪)، و كذا خلال الستة أشهر الأولى. ٣٧٪ أما من مجموعة الدراسة (٣٤,٦٪) مقابل ٨٪ فقط من مجموعة المقارنة (٧,٣٪).

٨- أظهر تحليل أسئلة استطلاع قبل البحث الخاصة بالغذاء الصحيح المستعمل للفظام، أن أمهات كثيرا (من كلا المجموعتين) ليست لهن دراية صحيحة بالفظام الصحيح (٤١,١٪) من مجموعة الدراسة و ٦٩,٩٪ من مجموعة المقارنة.

٩- أظهرت مجموعة الدراسة ممارسة أفضل بكثير للفظام مع أطفالهن. و أظهر تحليل استبيان بعد البحث اختلافا إحصائيا يعتد به بين المجموعتين بالنسبة للتوقيت الفعلي لادخلهن كلا من السوائل و المواد الصلبة في طعام أطفالهن.

١٠- بينما عانى ٣,٦٪ من أطفال مجموعة المقارنة سوء التغذية، لم يكن أي طفل من الدراسة ناقص الوزن. و علاوة على ذلك، أظهر تحليل الطول/العمر لكلا المجموعتين الدراسة و المقارنة أن ٨٩,٩٪ من مجموعة الدراسة كانوا في المدى الطبيعي، و ٨٣,٥٪ من مجموعة المقارنة في نفس المدى.

١١- وفي نهاية الدراسة، سئلت المجموعتان عن معدل الإصابة بالإسهال و السعال و القيء في أطفالهن. و لم يكشف التحليل عن أي فرق بين المجموعتين في متوسط عدد نوبات الإسهال. بينما كان الاختلاف الإحصائي يعتد به في متوسط عدد نوبات القيء و العدوى التنفسية الحادة.

المقترحات و التوصيات:

- ١- هناك وفرة في الوسائل التعليمية والخاصة بالمشورة، ومن الموءكد أن الاستعمال الفعال الواعى لهذه الوسائل في مراكز رعاية الأمومة و الطفولة سيساعد على تحسين معرفة الأمهات و سلوكهن، و سيؤثر هذا على صحتهن و كذا نمو أطفالهن و تطورهم.
- ٢- تطبيق برنامج تعليم الأم خلال فترات ما قبل و بعد الولادة يمكن أن يحسن من معرفة و ممارسة الأمهات فيما يتعلق بالمبادرة في الرضاعة الطبيعية المطلقة و كذا ممارسة الفطام الصحيح.
- ٣- لفاعلية تطبيق مثل هذا البرنامج، فالتنسيق و التكامل بين قسمي تنظيم الأسرة و طب الأطفال بمراكز رعاية الأمومة و الطفولة ضرورة لازمة. و تدريب الفريق الصحي في هذه المراكز على تطبيق برامج تعليمية مماثلة ضرورة أساسية لنجاحها.

الحمد لله

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

مستخلص الرسالة

اجريت الدراسة خلال الفترة من مارس ١٨٨٦ حتى أغسطس ١٩٩٧ وكان هدفها تقدير أثر برنامج تعليم الأم على ممارستها الرضاعة الطبيعية والقطام وتنظيم الأسرة . وكان تباعد الولادات هي الممارسة المختبرة للمرأة بينما كانت ممارسات صحة استمرارية الرضاعة والقطام الموضوعين الرئيسيين بالنسبة للطفل .

وقد اختبر فضلا عن ذلك الأثر على صحة الطفل وقد نظمت الدراسة فى ثلاثة مراكز لصحة الأمومة والطفولة بالقاهرة فاتخذت مجموعة الدراسة من مركزين واتخذت ثالث للمقارنة (المراجعة) . وأسفرت الدراسة عن أثر إيجابى لتعليم الأم على وقت ممارسة تنظيم الأسرة والوسيلة الأكيدة لمنع الحمل المستعملة بمجموعة الدراسة وقد أرضعت أمهات مجموعة الدراسة ، علاوة على ذلك أطفالهن لفترات أطول ومارسن القطام بصورة أفضل . وتوضح هذه الدراسة أن تعليم الأم خلال فترتى ما قبل وما بعد الولادة يمكن أن يكون ذا أثر إيجابى على ممارسة كل من تنظيم الاسرة والرضاعة .

كلمات فاتحة :

رضاعة - قطام - تنظيم الأسرة - مراكز صحة الأمومة والطفولة

قبل الولادة / بعد الولادة - مراقبة النمو - التحصين - رعاية الطفل .

بسم الله الرحمن الرحيم

جامعة عين شمس
الكلية: معهد دراسات الطفولة
رسالة / دكتوراه

اسم الطالب : توحيد حامد مصطفى خليل
عنوان الرسالة : تصميم وتطبيق وتقييم برنامج لتعليم الأم بمراكز رعاية الأمومة والطفولة
اسم الدرجة : دكتوراه
لجنة الأشراف :

١. الاسم / أ.د. سعدية محمد على بهادر الوظيفة / أستاذ علم نفس النمو معهد دراسات الطفولة
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كلية الطب - جامعة عين شمس
- تاريخ البحث : ١٩٩٠ / ٢ / ٢٥

الدراسات العليا

أجيزت الرسالة بتاريخ ١٩٩٨ / ٢ / ٢٦

ختم الإجازة :

موافقة مجلس الجامعة

المعتمد
موافقة مجلس الكلية

١٩ / /

١٩ ٩٨ / ٥ / ١٦

بسم الله الرحمن الرحيم

جامعة عين شمس

الكلية : معهد دراسات الطفولة

صفحة العنوان

اسم الطالب : توحيد حامد مصطفى خليل

الدرجة العلمية : دكتوراه

القسم التابع لـ : الدراسات الطبية

اسم الكلية : معهد دراسات الطفولة

الجامعة : جامعة عين شمس

سنة التخرج : ١٩٩٨

سنة المنح : ١٩٩٨

بسم الله الرحمن الرحيم

جامعة عين شمس
معهد الدراسات العليا للطفولة
القسم الطبي

تصميم و تطبيق و تقييم
برنامج لتعليم الأم بمراكز رعاية الأمومة و الطفولة

ملخص بحث توطئة للحصول على درجة دكتوراه
الفلسفة في دراسات الطفولة

رسالة مقدمة من
طبيبة/ توحيدة حامد مصطفى خليل

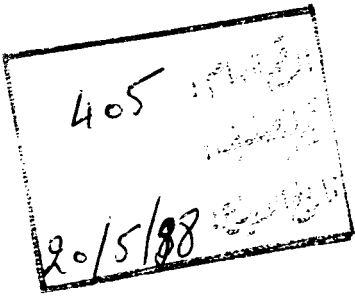
المشرفون

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رئيس قسم طب المجتمع
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كلية الطب-جامعة عين شمس

بسم الله الرحمن الرحيم



جامعة عين شمس
معهد الدراسات العليا للطفولة
القسم الطبي

تصميم و تطبيق و تقييم
برنامج لتعليم الأم بمراكز رعاية الأمومة و الطفولة

رسالة مقدمة من
طبيبة/ توحيدة حامد مصطفى خليل

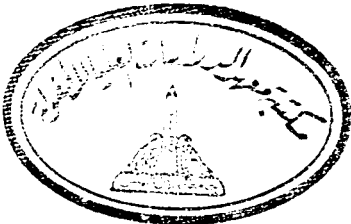
توطئة للحصول على درجة دكتوراه الفلسفة
في دراسات الطفولة

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جامعة عين شمس

١٩٩٨