

RESEARCH ARTICLE

A Study to Assess the Effectiveness of Self Instructional Module on Knowledge regarding Identification and Management of High-risk Pregnancy among the ANM Student in selected nursing school, Bhubaneswar, Odisha.

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ABSTRACT:

A quasi experimental study with pre and post test with without control group design was under taken in HI-TECH school of nursing, BBSR to assess the effectiveness of SIM regarding high risk pregnancy on knowledge among the ANM students. 42 ANM students were selected by simple random sampling technique and Data was collected by using closed ended questionnaire from Dt-27.02.2014 to Dt-13.03.2014 and collected data were analyzed by using descriptive and inferential statistics. Findings revealed that highest percentage 50% of the ANM students were in the age group of 18-20 years. All were female and unmarried Majorities 98% of them are Hindus and 2% are Christians. The overall pre test mean score was (9.42±6.8) which is 31% of the total score reveals poor knowledge where as it was (16.85±9.7) which is 56% in posttest revealing 25% of enhancement knowledge score. Area wise highest post test mean score (4.9±5.2) which is 49% was obtained for the area of "risk factor" where as the lowest post test mean score (1.4±1.6) which is 46.6% was obtained for the area of "complication". Highly significant ($p<0.01$) difference was found between pre and post test knowledge scores and no significant ($p>0.05$) association was found between post test knowledge scores in relation to demographic variables of ANM students.

KEYWORDS: High risk pregnancy, Auxiliary nurses and midwifery student, self instructional module.

INTRODUCTION:

High risk pregnancy refers to a pregnancy in which the fetus has a higher than average chance of experiencing morbidity or mortality. High risk pregnancy is one which is complicated by factor or factors that adversely affects the pregnancy outcome, maternal or perinatal or both. All pregnancy and deliveries are potentially at risk. However there are certain categories of pregnancies where the mother, the foetus or the neonate is in high risk. About 20-30% belongs to this category. If we desire to improve obstetric results, this group must be identified and given extra care (Dutta D.C, 2004).

They are generally associated with inadequate prenatal care, previous obstetrical history (such as spontaneous abortion), preexisting maternal disease, pregnancy induced disease (such as gestational hypertension), multiple pregnancy and maternal age below 17 yr or above 35yr. The risk factors may be pre-existing prior or at the time of first antenatal visit or may develop subsequently in the ongoing pregnancy labor or puerperium (Rao Kamini, 2011).

A woman is considered to have a high-risk pregnancy when health concerns exist that may threaten the natural course of the development or birth of the baby, or that pose a risk to the mother. In such cases, the mother may need special care, more tests and possibly medication to ensure that she can carry the baby safely through to delivery. While pregnancy is a natural condition, it can be complicated even in healthy woman's body because of changes in blood volume, hormone balance, pressure, the physical burden of

pregnancy etc. Underlying medical conditions can add even more stress, while complications caused by pregnancy itself (such as preeclampsia or gestational diabetes) can turn a normal pregnancy into a high-risk pregnancy. Most high-risk pregnancies still end with a healthy mother and child; it is still true that six out of 100,000 births in the United States, the mother die, 16 babies in every 1,000 deliveries also die before, during, or after birth. A pre-pregnancy visit with a healthcare provider is especially important for a woman who has a medical problem.

A woman who has not had a pre-pregnancy visit should contact a healthcare provider as soon as she learns she is pregnant. Often, the provider will schedule the first prenatal visit within a day or two, instead of waiting until 8-10 weeks of pregnancy. This is because certain medical conditions can increase the risk of miscarriage. The provider has to be sure that any medication is adjusted properly to increase the chance of having a successful pregnancy. In addition a woman with a high-risk pregnancy may be referred to a prenatal care center need the expert advice (Christopher Murray et al, 2008).

Women die from a wide range of complications in pregnancy, childbirth or the postpartum period. Most of these complications develop because of their pregnant status and some because pregnancy aggravated an existing disease. The four major killers are: severe bleeding (mostly bleeding postpartum), infections (also mostly soon after delivery), hypertensive disorders in pregnancy (eclampsia) and obstructed labour. Complications after unsafe abortion cause 13% of maternal deaths. Globally, about 80% of maternal deaths are due to these causes. Among the indirect causes (20%) of maternal death are diseases that complicate pregnancy or are aggravated by pregnancy, such as malaria, anemia and HIV. Women also die because of poor health at conception and a lack of adequate care needed for the healthy outcome of the pregnancy for themselves and their babies.

The first step for avoiding maternal deaths is to ensure that women have access to family planning and safe abortion. This will reduce unwanted pregnancies and unsafe abortions. The women who continue pregnancies need care during this critical period for their health and for the health of the babies they are bearing. Most maternal deaths are avoidable, as the health care solutions to prevent or manage the complications are well known. Since complications are not predictable, all women need care from skilled health professionals, especially at birth, when rapid treatment can make the difference between life and death. For instance, severe bleeding after birth can kill even a healthy woman within two hours if she is unattended. Injecting the drug oxytocin immediately after childbirth reduces the risk of bleeding very effectively (WHO, 2007).

The perinatal mortality rate has often been used as an index of the level of development in a community. It not only reflects the socioeconomic status, educational level and

cultural background of the mother but also comments on the quality of medical care provided to the mother and her neonate. A number of biological and social factors during pregnancy influence the perinatal mortality. Although only 10-30% of the mothers seen in antenatal period can be classified as high risk they account for 70-80% of perinatal mortality and morbidity. Age, parity, social class and past obstetric history are only some of the factors that should be taken into account while assessing the risk for any pregnant woman. Early identification of the factors that influence perinatal mortality followed by proper management and therapy can frequently modify or prevent a poor perinatal outcome.

High-tech maternal and child health care (as electronic foetal monitoring, portable ultrasonography, intensive neonatal care units at PHC level etc) as is available in the West is not possible in rural India where poverty, ignorance and illiteracy prevail. Hence, a need for a simplified and less invasive method for early detection of high risk pregnancy is needed. According to Sundarka and Kacchap¹ in our country where there is a lack of facility at each level a scoring system would be a cost effective and easily accessible method to screen the high risk pregnancy and to estimate the net perinatal outcome. The risk scoring provides a formalized method of recognizing, documenting and cumulating antepartum and intrapartum factors in order to predict the later complications for mother and her foetus.

High risk pregnancy requires exemplary individualised care and special attention as this group is responsible for maximum perinatal mortality and morbidity even though they form a small proportion of the entire population.

Despite recent advances in modern obstetrics and neonatal care India, is still facing a high (33/1000) perinatal mortality rate compared to 5-10 per 1000 live births in developed countries. 70%-80% of perinatal mortality in developing countries including India is accounted for by the mothers falling in the high risk category. Each year more than 500,000 women die from pregnancy related causes, 99% of these in developing countries, perinatal mortality is one of the most sensitive indices of maternal and child health. At the beginning of this millennium in year 2000, 189 countries and 23 international health agencies had pledged to reduce the child under -5 mortality by 2/3 and maternal mortality by 3/4 by 2015. Perinatal mortality rate of India in 2007 was 37/1000 live birth. In 2002-2005 it was 301/100000 live birth and current MMR of India in 2009 is 250/1,00000 live births. One of the reasons for this dismal performance is failure to identify the foetus at risk in time. Perinatal outcome can be changed significantly by early detection followed by special intensive care of high risk pregnancies by health care providers (Samiya M, 2008).

It is an accepted truth that the probability of undergoing a high risk pregnancy increases with increasing maternal age. Even the mother who have in the past experienced multiple miscarriages, still births, neonatal deaths or may be preterm

deliveries also stand a chance to suffer from high risk pregnancy (WHO,2004). Most women in the world do not have access to the health care and health education services they need during pregnancy. In many developing countries, complications of pregnancy and child birth are the leading cause of death among women of reproductive age. More than one woman every minute and 6lakhs women every year die during pregnancy (Pieper PG, 2011).

A study was conducted on 750 women to determine the profile of high-risk pregnancy in El-Mansoura city. The study revealed that among all women, 63.8% of the samples were at a high-risk, while 25.0 % at a moderate-risk and only 11.2% were at low-risk. About 70.0% of the high-risk pregnant women were in their third trimester followed by 23.0% in the second trimester and only 7.1% were in the first trimester. About 5.9% of the women were at a high-risk because of polluted housing conditions, 1.9% had heart diseases, 5.2% because of diabetes mellitus, 4.2% had hypertension and 14.9% had undergone previous cesarean section. 14.8% women were at moderate risk because of their illiteracy, 29.2% of them for being short, 14.7% and 10.6% were teenagers or over 35 years of age respectively, 12.6% had a history of gestational diabetes and 32.8% had anemia, 23.2% had urinary tract infection, 16.9% had albuminuria, and 12.0% had glucoseuria. Finally, identifying the profile of high -risk pregnant women is mandatory (Yassin S.A, 2005).

A study was conducted in the Udipi district to determine the effectiveness of an information booklet on "Prevention of high risk pregnancy". 30 primigravid women were taken as a sample and the result indicated that the post-test knowledge score was higher (M=33) than the mean pre-test knowledge score (M=16.83). This indicated that the administration of an information booklet was effective in increasing the knowledge of primigravid women (Thresia C.M, 2006).

If we desire to improve our obstetric results, the high risk case should be identified and given proper antenatal, intranatal and neonatal care by the health care providers. So, all the health care personnel should be competent enough to handle such type of cases. Hence, here the researcher took interest do the study among ANM student to assess the knowledge regarding identification of high risk pregnancy and its management and also to educate them by providing information booklet.

OBJECTIVES:

- 1) To assess the:-
 - Knowledge among ANM students regarding identification and management of high risk pregnancy before implementing the SIM.
 - Effectiveness of SIM on the knowledge of ANM Students regarding the identification and management of high risk pregnancy.

- 2) To find out the association between post test knowledge score with their selected demographic variables.

HYPOTHESIS:

H₀: There will be no significant difference between pretest and post test knowledge scores ANM students regarding high risk pregnancy.

H₁: There will be no association between the post test knowledge scores with their selected demographic variable

MATERIALS AND METHODS:

Research design and approach

A quasi- experimental design, where pre and post test without control group and evaluative approach was used.

O₁.....X-----O₂

O₂- O₁=E

The symbol used are explained as follows

O₁- Pretest = Knowledge scores of ANM students regarding identification and management of high risk pregnancy before implementing self instructional module.

X - Treatment = presentation of self instructional module regarding identification and management of high risk pregnancy

O₂ - Post test = Knowledge scores of ANM students regarding identification and management of high risk pregnancy after implementing self instructional module.

E = Effectiveness of self instructional module.

Setting of the study:

The study was conducted in Hi-tech School of nursing , Rasulgarh, Bhubaneswar .

Sample and Sampling Technique:

42 ANM students were selected by simple random sampling techniques is a probability sampling technique where the researcher given equal chance to all the participant.

Description of the tool:

After an extensive review, author developed the tool, based on objectives.

The tool has 2 sections i.e , Section "A" and Section "B"

- Section "A" consists of demographic variable of ANM students]
- Section "B" consists of knowledge questionnaire regarding identification of high risk pregnancy and its management.

Validity and Reliability:

Validity refers to the degree to which an instrument measures what it is supposed to measure. Content validity concerns the degree to which an instrument has appropriate sample of items for the construct being measured and adequately covers the construct domain. The content validity of the tool was established from various experts in field of obstetrics, obstetrics and gynecological nursing, community health nursing and statistics. Suggestions were given by the experts and the tool was modified accordingly.

Table-1: Overall and Area wise comparison of mean SD and mean% of pre and post test knowledge score of ANM students regarding high risk pregnancy

Sl. No.	Area	Max. score	Pretest			Post-test			Effectiveness
			Mean	SD	Mean%	Mean	SD	Mean%	
1	Introduction	04	2.3	2.49	57.5	3.07	3.19	76.75	19.25
2	Risk factor	10	2.8	3.17	28	4.9	5.2	49	21
3	Assessment and screening	08	2.2	2.62	27.5	4.61	5	57.62	30.12
4	Complication	03	0.6	0.93	20	1.4	1.6	46.6	26.6
5	Management	05	1.3	1.95	26	2.83	3.12	56.6	30.6
Over all		30	9.42	6.8	31	16.85	9.7	56	25

Reliability of the tool was tested by split half method (odd-even) by using Karl–Pearsons’s correlation coefficient formula and spearman brown formula was used to find out the reliability of the tool, the r value was 0.92 and it was found that the tool was more reliable.

Data collection procedure

Prior to the data collection, the permission was obtained from the principal of Hi-tech school of nursing and verbal informed consent was taken from the respondent. Pretest was conducted followed by administration of SIM. and post test was done after 7 days.

Planned data analysis

The collected data were organized, tabulated and analyzed by using descriptive and inferential statistics.

Findings

Distribution of ANM students according to their demographic variables reveals that Highest percentage (50%) of the ANM students were in the age group of 18-20 years, All the ANM students (100%) were female, 97.6% Hindu and 2.3% Christian.

Table-1- Depicts that overall pretest knowledge score was (9.42±6.8) which is 31% where as post test knowledge score was (16.85±9.7) which is 56%, which shows the effectiveness of SIM on knowledge regarding identification of high risk pregnancy and its management among the ANM students.

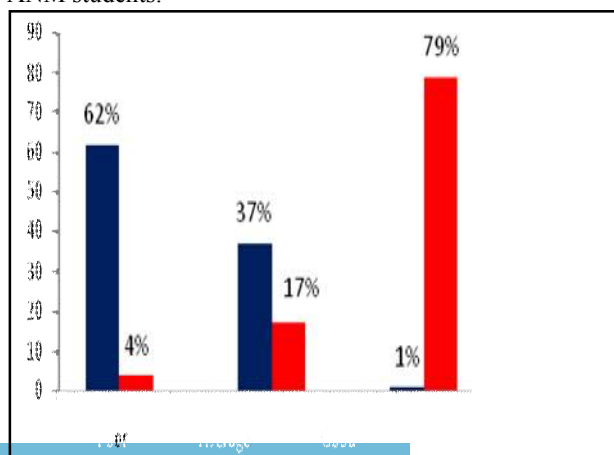


Fig- 1: Comparison of level of knowledge of pre and post test scores of the ANM students regarding high risk pregnancy

Level of knowledge

Table-2: Comparison of pre and post test knowledge score of ANM students regarding identification and management of high risk pregnancy

Area	'Z' value	Level of significance
Introduction	4.11	Highly significant
Risk factor	6.02	Highly significant
Assessment and screening	10.43	Highly significant
Complication	3.3	Highly significant
Management	5.1	Highly significant

“Z” test was calculated which shows highly significant difference between pretest and posttest. Hence stated null hypothesis is rejected (P<0.01) and statistical hypothesis is accepted. Thus, the difference observed in the mean score value of pretest and posttest were true difference and not by chance .Thus, it can be interpreted that self Instructional module was effective for all areas.

χ^2 was computed to find out the association between the post test KS and the demographic variables of the ANM students and Findings reveal that there was no significant association between KS of students when compared with their demographic variable (P>0.05). Hence, it can be interpreted that the difference in mean score related to the all demographic variables were only by chance not true and null hypothesis was accepted.

CONCLUSION:

From the finding of the present study it can be concluded that SIM regarding high risk pregnancy among ANM students was effective to improve the knowledge of ANM students. Prior to implementation of SIM, the ANM students had poor knowledge 31% after implementation of SIM students had good knowledge 56 regarding identification of high risk pregnancy and its management with the difference in mean percentage of 25% which shows the effectiveness of SIM. Highly significant difference was found between pre and post test knowledge score (p<0.01) and No significance association was found between the posttest knowledge score when compared with demographic variables of ANM students (p<0.05s).

IMPLICATIONS:

Nursing Services:

- The content of the SIM will help the ANM students working in the hospital and community for reinforcing their knowledge on high risk pregnancy.
- The findings will help the nursing personnel to assess the risk condition which requires knowledge on high risk pregnancy to save the life of the mother.

Nursing education:

- The nurse educator can use the SIM to teach the students about how to identify a high risk pregnancy.
- The findings will help the nurse to give more importance for planning and organizing the SIM to improve knowledge of clinical practice of the students.

Nursing research:

- The findings can be utilized for conducting research on the effectiveness of SIM on various aspect of nursing.
- The large scale study can be done for replication to standardized the SIM on high risk pregnancy.
- Use of research findings should become the part of quality assurance evaluate to enhance individual profession as a whole.

RECOMMENDATIONS:

- A large scale study can be carried out to generalized the findings.
- A similar study can be conducted by using VATM for educating the ANM students.

REFERENCES:

1. Dr Christopher Murray et al, "Maternal mortality rate in India", Institute for Health Metrics and Evaluation, University of Washington 2008.
2. Dutta DC. Textbook of Obstetrics. 5th edition. Calcutta: New Central Book Agency (P) Ltd. 2001.
3. Dutta S and Das XS, "Identification of high risk mothers by a scoring system and it's correlation with perinatal outcome", Journal of Obstet Gynaecol India. 1990; 40: 181-190.
4. El Daba AA, Amr YM, Marouf HM, Mostafa M, "Retrospective study of maternal mortality in a tertiary hospital in Egypt." Anesthesia Essays Research 2010; 4:29-32.
5. Fraser DM, Cooper MA. Myles Textbook for Midwives. 14th edition. China: Churchill Livingstone. 2003.
6. R. V. Bardale MD and P. G. Dixit MD, "Factors causing high risk pregnancy and to recognize cause of death." Department of Forensic Medicine, Govt. Medical College and Hospital, Nagpur, India 2006.
7. Rajaeefard A, Mohammadi M, Choobineh A. Preterm delivery risk factors: a prevention strategy in Shiraz, Islamic Republic of Iran. East Mediterranean Health Journal. 2007 May-Jun; 13(3):551-9.
8. Shahzada J. Malik and Nisar A. Mir, "identify the preventable factors in high risk pregnancy", Journal of obstetrics and gynecology research, May 2010.
9. Stark MA. Directed attention in normal and high-risk pregnancy. Journal of Obstetrics Gynecology and Neonatal Nursing. 2006 Mar-Apr; 35(2):241-9.
10. UNFPA: Population issues: Safe Motherhood: Maternal Mortality; [online] available from: <http://www.unfpa.org/mothers/statistics.htm>. Oct 2007.

11. Vertika Kishore, Man M Misro, and Deoki Nandan, "Knowledge of health care workers regarding risk pregnancy", Indian Journal of Community Medicine, 2010 January; 35(1): 46-51
12. Yassin SA, Gamal El-Deen AA, Emam MA, Omer AK. The profile of high-risk pregnancy in El-Mansoura city. Journal of Egypt Public Health Association. 2005; 80(5-6):687-706.

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