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Effectiveness of Family Training on Prevention of Pressure Ulcers among Bed-Ridden Patients after Discharge from EL-Wafa Medical Rehabilitation Hospital.

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بسم الله الرحمن الرحيم

(رب قَد آتيتِني مِن الْملْكِ وعلمتِني مِن تأْوِيلِ الأَحادِيثِ
فَاطِر السماواتِ والأَرضِ أَنت وِلِيي فِي الدنيا والآخِرةِ توفِنِي
مسلِما وأَلْحِقْنِي بِالصالِحِين) يوسف 101

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بناءً على موافقة عمادة الدراسات العليا بالجامعة الإسلامية بغزة على تشكيل لجنة الحكم على أطروحة الباحثة/ **تمام محمود عودة الدحارجة** لنيل درجة الماجستير في **كلية التربية/ قسم الصحة النفسية المجتمعية/علوم التأهيل** وموضوعها:

" Effectiveness of Family Training on Prevention of Pressure Ulcers among Bed-Ridden Patients after Discharge from El-Wafa Medical Rehabilitation Hospital"

وبعد المناقشة العلنية التي تمت اليوم السبت 15 ذو الحجة 1429هـ، الموافق 2008/12/13م الساعة الثانية عشرة ظهراً، اجتمعت لجنة الحكم على الأطروحة والمكونة من:

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واللجنة إذ تمنحها هذه الدرجة فإنها توصيها بتقوى الله ولزوم طاعته وأن تسخر علمه في خدمة دينه ووطنه.

والله ولي التوفيق ،،،

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ABSTRACT

OBJECTIVES: The purpose of this study is to determine the effectiveness of family training on prevention of pressure ulcers among bed-ridden patient after discharge from EL-Wafa Medical Rehabilitation Hospital. **RESEARCH DESIGN:** the researcher used experimental design (pretest – posttest), it is one type of quantitative research design. **METHODS:** The study is sample comprised of all the caregivers of the bed-ridden patients (males and females) who were admitted to EL-Wafa medical rehabilitation hospital and specialized surgery for at least two weeks and still in the hospital and at high risk to develop pressure ulcer between august 2007 and October 2007. Convenient sample was used. **SETTING**: The (pretest questionnaire) was conducted in EL-Wafa medical rehabilitation hospital in Gaza strip, the educational package was administered in EL-Wafa medical rehabilitation hospital and the posttest questionnaire was completed in the caregivers' homes in Gaza Strip: (Northern of Gaza, Gaza City, Middle Zone, Khanyounis and Rafah). **PARTICIPANTS:** Respondents included eighty caregivers who have at least two weeks experience as caregivers of bed-ridden patients .Respondents ranged in age from 18 to 50 years old who are with their patients in EL-Wafa medical rehabilitation hospital and specialized surgery. **Result:** There is a difference between the family before and after training on prevention and management of bedsores for bed-ridden patients after being discharged from El-Wafa medical rehabilitation hospital and specialized surgery. The average score of bed-ridden caregivers training before training package administration was found to be 3.30 and after training package was given the average score was found to be 3.47. That means the training package was effective and easily applicable by the bed ridden patients caregivers at their homes.

Conclusion:

Participants in the study reported that they could use the educational package effectively and easily in the prevention of pressure ulcers among their bed-ridden patients, which decreases the occurrence of pressure ulcers.

ABSTRACT IN ARABIC

ملخص الدراسة بالعربية

فعالية تدريب أسرة المعاق في كيفية التعامل ومنع حدوث التقرحات لدى المرضى طريحي الفراش بعد خروجهم من مستشفى الوفاء للتأهيل الطبي و الجراحات التخصصية في قطاع غزة.

أهداف الدراسة: هدفت الدراسة إلى التعرف على فعالية تدريب أسرة المعاق في كيفية التعامل ومنع حدوث تقرحات الفراش لدى المرضى طريحي الفراش بعد خروجهم من مستشفى الوفاء للتأهيل الطبي و الجراحات التخصصية في قطاع غزة و الذي بدوره قد كشف عن بعض الصعوبات التي يواجهها مقدمي الرعاية للمعاق و التي تؤثر على كيفية التعامل مع مرضاهم بعد الخروج من المستشفى.

نوعية البحث: استخدمت الباحثة نوع البحث التجريب(جمع البيانات قبل وبعد برنامج التدريب لمقدمي الرعاية).

عينة البحث: تشتمل عينة البحث على كل مقدمي الرعاية للمرضى طريحي الفراش (ذكور و إناث) الذين دخلوا مستشفى الوفاء للتأهيل الطبي و الجراحات التخصصية لمدة لا تقل عن أسبوعين و معرضين لحدوث تقرحات الفراش في الفترة الممتدة بين أغسطس 2007 و أكتوبر 2007.

وللإجابة عن تساؤلات الدراسة قامت الباحثة بمعالجة البيانات إحصائيا باستخدام الأسلوب التجريبي بطريقة العينة الملائمة لمعالجة البيانات و التي و تشمل كلا من التكرارات و النسب المئوية و اختبار ألفا كرونباخ لمعرفة ثبات فقرات الاختبار ومعامل بيرسون لقياس صدق الفقرات . لقد شملت العينة كل مقدمي الرعاية للمرضى طريحي الفراش من أغسطس 2007م وحتى أكتوبر2007م بعد تلقيهم الخدمات التاهيلية في مستشفى الوفاء للتأهيل الطبي.

خطوات الدراسة: تم جمع البيانات الأولية قبل تنفيذ برنامج التدريب لمقدمي الرعاية للمرضى طريحي الفراش في مستشفى الوفاء للتأهيل الطبي و الجراحات التخصصية وكذلك تم تنفيذ برنامج التدريب في نفس المستشفى و تم جمع البيانات الخاصة بمعرفة مدى فعالية برنامج التدريب في منازل مقدمي الرعاية للمرضى طريحي الفراش في كل محافظات قطاع غزة (شمال غزة – غزة –الوسطى- خانيونس- رفح). **العينة:** بلغ عدد المشاركين في الدراسة

ثمانين مشارك/ ة من مقدمي الرعاية لطريحي الفراش بعد خروجهم من مستشفي الوفاء. كانـت أعمار المشاركين الذين تمت زيارتهم في المستشفى قبل و بعد تنفيذ برنامج التدريب بـين 18-50 عام. استخدمت الباحثة أدوات الدراسة التالية: استبانه لجمع المعلومات قبل تنفيـذ برنـامج التدريب وبعد تنفيذ البرنامج التعليمي بثلاثة أسابيع حيث تمت تعبئة نفس الاستبانة لمعرفة مدى فعالية البرنامج التدريبي.

النتيجة : أظهرت النتائج انه يوجد فرق ذو دلالة إحصائية بين معرفة العائلة كيفيـة التعامـل و منع حدوث التقرحات الفراشية قبل و بعد تطبيق البرنامج التعليمي لعائلة المرضـى طريحـي الفراش حيث بلغ معدل القدرة على التعامل مع تقرحات الفراش قبل تنفيذ برنامج التدريب 3.30 و بعد تنفيذ البرنامج التدريبي بلغ المعدل3.47.

و هذا يعني أن هذا البرنامج فعال و انه يمكن تطبيقه بسهولة بواسـطة مقـدمي الرعايـة للمرضى طريحي الفراش. **الخاتمة:** أظهرت الدراسة أن المـشاركين يمكـن أن يطبقـوا هـذا البرنامج بسهولة ليساعدهم في التعامل و كذلك منع حدوث التقرحات عند مرضاهم بعد الخروج من المستشفى.

DEDICATION

I would like to take this opportunity to express my deepest thanks and dedicate this work for Allah, my dear parents for their continuous support along the way , for my husband who was supportive to me, for my brothers and sisters and my lovely daughter .

In addition, I would like to dedicate this thesis to all my family, my dear friends and for all the lovely people that I know.

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DECLARATION

I certify that this thesis submitted for the degree of master is the result of my research, except where otherwise acknowledged, and that this thesis (or part of the same) has not been submitted for a higher degree to any other university or institution.

Signature

Tamam Mahmoud El-Daharja

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ACRONYMS

APAMs	Alternating pressure air mattresses
ETF	Entral tube feeding
EWMRSSH	EL-Wafa medical rehabilitation and specialized surgery hospital
GS	Gaza strip
HBM	Health belief model
MOH	Ministry of health
NGOs	Non governmental organizations
NIS	New Israeli Shekel
ONS	Oral nutritional supplements
PHC	Public health center
PICU	Pediatric intensive care unit
PNA	Palestinian national authority
PU	Pressure ulcer
RCTs	Randomized control trails
SPSS	Statistical package for the social sciences
UK	United Kingdom
UNRWA	United relief and work agency for Palestinian refugees
USA	United state of America

CHAPTER" 1"

INTRODUCTION

بسم الله الرحمن الرحيم

At the beginning the researcher will mention the anatomy and the function of the skin .

1-1 Anatomy and function of skin:

The skin structure composed of the 3 layers of skin : the epidermis, dermis, and subcutaneous tissue.

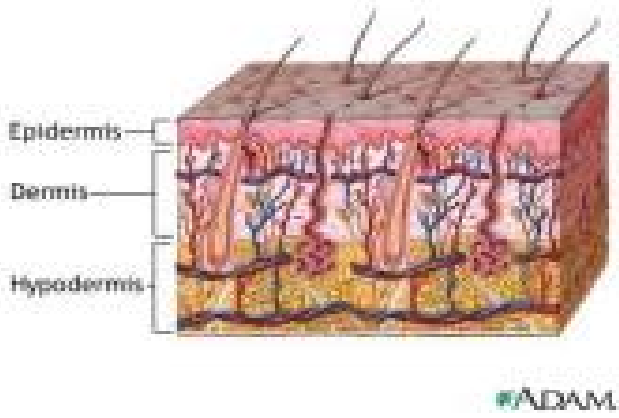


Figure (1)Anatomy of skin.

Epidermis:

The epidermis is the outer layer of skin. The thickness of the epidermis varies in palms and soles at 1.5 mm. It is the thinnest on the eyelids at .05 mm and the thickest on the palms and soles at 1.5 mm. The weight of the human's skin about 11 kg. The skin is the largest human organ. the epidermis is contiguous with the mucous membranes and the lining of the ear canal, consists of live, continuous dividing cells covered on the surface by dead cells that were originally deeper in the dermis but were pushed upward by the newly developing . This external layer is replaced every 3-4 weeks .The dead cells contain keratin an insoluble fibrous protein that forms the outer barrier of the skin and the capacity to repel pathogens and prevent excessive fluid loss from the body. The melanocytes are the special cells of the epidermis that are involved in producing the pigment melanin which colors the skin and hair .

The dermis :

The dermis makes up the largest potion of the skin providing strength and structure it composed of two layers :

The papillary layer : which produces one forms of the collagen a component of connective tissues .The reticular layer : which produces collagen and elastic bundles .

The dermis is made up of blood and lymph,nerves,sweat glands and sebaceous glands and hair roots.

Subcutaneous tissue or hypodermis:

Is the inner layer of skin it is the adipose tissue, it is provides a cushion between the skin layers and internal structures as muscles and bone, it permits skin mobility molds body contours and insulates the body .The subcutaneous and fatty tissues are important factors in body temperature regulation. (Smeltzer and Bare2000)

Function of the skin:

The skin not just only gives the human the appearance and shape but it has other important functions:

1-Protection: The skin is a shield that protects from:

- Mechanical impact such as pressure and stroke .
- Thermal impact such as heat or cold .
- Environmental impact such as chemicals, the sun's UV-radiation and bacterial invasion.

2-Regulation:

The skin regulates the body temperature, maintaining the proper temperature for the body to function well.

The production of sweat, which evaporates on the skin's surface, will cool the body down.

3-The Sensation :

Besides the senses of smell, taste, sight and hearing the sense of touch is one of body's

most important senses. This sense is made possible by various cells and nerve ending , the skin which send impulses to the central nervous system.

4- Immunity function: The skin plays an active role in the immune system protecting from disease.

5- Vitamin production:

Skin exposed to ultra violet light can convert substances for synthesizing vit D which is important for preventing rickets, condition that result from a deficiency of vit D and calcium and phosphorus that cause bone deformities . (Smeltzer and Bare, 2000)

1-2Introduction:

According to Randall and Braddom (2000), Pressure ulcer (PU) is a serious problem that affects approximately 9% of all hospitalized patients and 23% of all nursing home patients. This condition can be difficult to treat and often results in pain, disfigurement, and prolonged hospitalization. However, prompt and effective treatment can minimize these dangerous effects and speed recovery.

Pressure ulcers are common in the world first countries such as United Kingdom (UK) and United States with large populations of chronically disabled and elderly patients.

In USA, prevalence ranges from 5-10 % in hospital patients. About 474,692 new cases of pressure ulcer occurred in 2000-2002. About 29 per 1000 person hospitalized at risk to develop pressure ulcer also 13% of pressure ulcer resulted in death in USA in 2000 - 2002. About 21 pressure ulcer occurred per 1000 discharged patients after hospital stays of 4 or more days. Estimated 37 cases of pressure ulcer occurred per 1000 hospital discharges after stay of 4 or more days of people aged 85 or more. 1.3 millions to 3 million adults suffer from this problem. Incidence of this problem varies depending on populations being surveyed: incidence rates for hospitals from 0.4% to 38%, while in long-term care settings varies from 2.2% to 23.9%, and home care reports indicate an incidence rate 1.7%. (Moya and Morison,2003).

A study by Thomas et al suggests that pressure rates in elderly are associated with increased mortality rates. Federal standards of care in nursing homes and hospitals list pressure sores as one of the quality of care indicators. Incidence rate of pressure ulcer is about 1.7%. About 25% of pressure ulcer patients are in nursing homes (National health care quality report, 2003).

The prevalence of pressure ulcers in Canada is 25% in acute care, 30% in non-acute care, 22% in mixed health-care settings, and 15% in community care. (Woodbury & Houghton,2004)

About 340,320 deaths from pressure ulcers were attributed to the patient safety incident in the US from 2000 to 2002. The economic burden of pressure ulcers treatment about $5,574.02 billion in excess cost of treating pressure ulcer was attributable to a patient safety incident in the US from 2000 to 2002. About 2.57 billion $ is spent on preventable pressure ulcer annually in America 2000-2002 (Patient Safety in American Hospitals, Health Grades 2004).

In UK, about 7% of patients have pressure ulcers, 23% of residents in nursing home which represent a major burden of sickness and reduce quality of life for patients and their caregivers – requiring prolonged contact with the health care system and causing pain ,discomfort in addition to this substantial increase the financial costs to national health services. Prevention and treatment of pressure ulcer in a 600 –bed general hospital costs between 600,000 pounds and 3 billions pounds a year (Patient Safety in American Hospitals, Health Grades 2004).

In a recent U.K. study that breaks down the costs of treating each pressure ulcer by degree of trauma (stages) and complication, figures indicate monthly costs (in Canadian dollars) of:

Uncomplicated Stage I = $2450 to Stage IV: $3230

Complicated with critical colonization Stage II = $3616 to Stage III / IV = $4003

Complicated with osteomyelitis Stage II to IV = $12,658.(Bennett , Dealy and Posnett,2004).

In England, (3,095) of hospital consultant sessions were for pressure ulcer. 71% of hospital consultant sessions for pressure ulcer required hospital admission. 43% of hospital consultant sessions for pressure ulcer were for men. 57% of hospital consultant sessions for pressure ulcer were for women. 68% of hospital consultant sessions for pressure ulcer required emergency hospital admission. 38.3 days was the mean length of stay in hospitals for pressure ulcer.21 days was the median length of stay in hospitals for pressure ulcer in England in 2002-2003. 67 was the mean age of patients hospitalized for pressure ulcer. 49% of hospital consultant sessions for pressure ulcer occurred in people over 75 years.(Moya and Morison,2003).

Gaza strip (GS) statistics about pressure ulcers showed that is 2312 cases in 2003, in west bank 4033 cases with pressure ulcer were recorded in 2003. But incidence and

prevalence was not found in annual reports (2003,2004,2005) or archives of Palestinian ministry of health except some hospital have documentation as Shifa hospital in 2004 :12 cases with pressure sore , In 2005: 19 cases , In 2006: 17 cases has pressure ulcers (archives department of Shifa hospital, 2007) .

The researcher started to investigate the present topic effectiveness of family training on prevention of pressure ulcers in 2006 and followed up the ongoing relevant studies. This is the first study to be conducted in the Gaza strip about effectiveness of family training on prevention of pressure ulcers among bed-ridden patients after discharge from rehabilitation hospital. The researcher thinks that the impact of pressure ulcers may extend beyond the hospitalization and she links between the bed-ridden patient as a person with special needs and challenges and different life situation of caregivers.

1-3 Idea behind the study:

Pressure ulcers is considered a major health problem and based on that this study is considered the first step to initiate training program in Gaza strip to increase awareness of patients and their families about pressure ulcer and prevention to improve health and reduce wasted efforts and money. Based on the incidence and prevalence rates in the world and in Palestine, which are mentioned above, the problem is considered serious among bed-ridden patients. The mortality is considered high due to complications if pressure ulcers are not managed effectively, they can lead to: gangrene, osteomyelitis, fractures, sepsis, and other localized or systemic infections, increased cost of treatment, lengthen nursing home stays, or even cause death.

Beside that, it affects bio psychosocial status and has high expensive cost. There is a need for preparing an educational package to increase the knowledge and awareness of caregivers who care for bed-ridden patients for prevention of pressure ulcer.

1-4 The clinical value of the study:

1. The clinical value of the study to bedridden caregivers is to provide to them the accurate information which help in prevention of pressure sore before its occurrence.
2. In the study, the caregivers expressed their feeling regarding their problems, which face them in dealing with their patients' chronicity.
3. Educational and training package may be effective to be applied by rehabilitation hospital and other hospital, which care for bedridden patients.

4. This is the first study to be conducted in Gaza strip about effectiveness of family training in dealing and prevention of pressure ulcer.

1-5 Aims of study:

1. The main aim of the study is to establish a training package for pressure ulcer prevention in the community, which is easy, applicable by bedridden caregivers and is cost effective and to find out the effectiveness of pressure ulcers prevention and management of pressure ulcer in the community by caregivers.
2. Health planners and decision makers will recognize and are more likely to address the needs to train the caregivers of bed-ridden patients in the hospitals so this can be translated to more training on dealing and management of pressure ulcers in rehabilitation hospitals.
3. The researcher in the study formulated an instructional instrument in Arabic in order to be used in Gaza strip. The researcher measured the validity and reliability of the translated instrument.

1-6 Objectives of study:

1- To investigate the risk factors of pressure ulcer.

2- To determine the effect of establishing an education program on the incidence rate of pressure ulcers.

1.7 Study hypotheses:

The following hypotheses have been derived and verified in the study.

1.7.1 Null hypothesis (statistical hypothesis)

There is no relationship between family training and prevention of pressure ulcers among bed-ridden patients after discharge from EL-Wafa medical rehabilitation hospital in Gaza strip.

1.7.2 Alternative hypothesis:

There is appositive relationship between family training and prevention of pressure ulcers among bed-ridden patients after discharge from EL-Wafa medical rehabilitation hospital in Gaza strip.

1.8 Research questions:

The study addresses two questions, which investigate the effectiveness of family training on prevention of pressure ulcers among bed-ridden patients' caregivers after being discharged from EL-Wafa rehabilitation hospital.

1. What is the effectiveness of family training on prevention of pressure ulcer among bed-ridden patients after discharge from El-Wafa medical rehabilitation hospital in Gaza strip?
2. What are the risk factors for development of pressure ulcers among bed-ridden patients?

1.9 Theoretical definitions:

The researcher in the present study used various terms. These terms will be illustrated in the following subchapters

1.9.1 Pressure ulcer:

The national pressure ulcer advisory panel(1989) defined pressure ulcer as an area of unrelieved pressure on a defined area ,usually over bony prominences such as occipital region, greater trochanter, sacrum, heels, between knees and lateral malluolous resulting in ischemia ,cell death and tissue necrosis.

1.9.2 Family training:

According to Smeltzer and Bare (2000), training program is a mechanism for transferring essential information to patients and caregivers. The primary focus of educational programs that deal with pressure ulcers is to translate this information into effective strategies for prevention and treatment

1.9.3 Caregiver:

Beggerly (1996) defined the Caregiver as the individual who help the bed-ridden patient at home. Usually the caregiver may be a husband or wife or an adult son or daughter, also be friend or even professional home health aide. Usually one person is the main caregiver, while others help from time to time.

1.9.4 The effectiveness:

Measuring outcomes and implementation of guideline recommendations which aim to enhance healing of existing ulcers, reducing the incidence of new or recurrent ulcers, and preventing the deterioration of existing ulcers (Smeltzer and Bare, 2000).

1.9.5 Bed ridden patient:

The individual who is unable to perform an activity in the manner or average considered to be normal for people of the same age, sex and culture due to any restriction or lack of activity (Delica, 1998).

1.10 Operational definition:

1.10.1 Pressure ulcers:

Pressure ulcer can be defined as a lesion of skin or underlying tissues by direct un - relieved pressure for more than 3 hours on skin especially on bony prominences which leads to decrease in blood supply causing necrosis and death of tissues.

1.10.2 Family training:

Family training means helping and assisting caregivers to apply the training program developed by the researcher to take care of the bed-ridden patient at home by keeping patient skin clean, providing good balanced nutrition, changing position and preventing pressure ulcer development.

1.10.3 Caregiver:

The caregiver is the person who will be trained and instructed in EL-Wafa medical rehabilitation hospital by the researcher on how to take care of bed-ridden patient in the home after being discharged from the hospital to prevent the occurrence of pressure ulcer.

1.10.4 Effectiveness:

Effectiveness can be defined as the out come of educational program by implementation of the instruction guidelines to prevent pressure ulcer development, healing of pressure and to improve the quality of the bed ridden patient life.

1.10.5 Bedridden patient:

The bed-ridden patient is the individual who is confined to bed, unable to turn or change his/her position in bed or wheel chair so he/she is at high risk for pressure ulcer development.

1-11 Study domains:

The study domain is defined by four main domains: place, time, people, and items of study.

Place: The study will be conducted in the Gaza strip: Northern of Gaza, Gaza city, Middle Zone, Khanyounis and Rafa.

Time: The fieldwork, data collection, is going to take place between July and October 2007.

Sample / people: The study population is the entire number of the cases that meet specific eligibility criteria. In this study the population were all the care givers of the bed ridden patients Male and female (80 participants) who were admitted to EL-Wafa medical rehabilitation hospital for at least two weeks and still in the hospital and at high risk to develop pressure ulcer.

Study instrument: Special questionnaire was developed by the researcher for this reason. Validity and reliability were done. Pre-test questionnaire was administered for the eligible subjects. Then the researcher administered the educational package(lecture, video and discussion) in three sessions within one week. Post-test questionnaire was given after three weeks, which assessed the effectiveness of the package.

1.12 Summary:

A lot have been done for pressure ulcers in terms of prevention, acute and sub acute management and rehabilitation. However, pressure ulcer is still considered a leading cause of morbidity and death in bed-ridden patients. So the family training of caregivers needs special concern in Gaza strip. In this study, the researcher aims to investigate the effectiveness of application of training package in dealing and prevention of pressure ulcers.

1-13 Country profile:

Gaza strip (GS) is a narrow piece of land lying on the cost of the Mediterranean sea. Its position lies on the crossroads from Africa to Asia, which made a target for occupiers over the centuries. Gaza strip is a very crowded place with area 365 sq/km2. The population is mainly concentrated in the cities and small villages and refugee camps which contain Two thirds of the population.

The mid year population size of the Palestine is estimated at 3.7 millions. Out of total number 2.3 million in west bank and 1.3 million in Gaza strip with percentage (63%) and (37%) .

In Gaza strip the population size is estimated at 1.389.789 (37.5%) of total population in Palestine. Out of which 703.532 (505%) are males and 686.257 (49.3%) are females constitutes (41.4%) of all Palestinian people overall the world including those in Diaspora which is estimated at 7.968.543 (Palestinian national authority "PNA", 2005).

Population density in Gaza strip is very high compared with the density in West Bank and the neighboring countries , density rate is about 3.808 inhabitants per one square kilometer in Gaza strip ,and about 420 inhabitants per one square kilometer in West Bank (PNA, 2005).

Age distribution of population has important implication on the health status of population due to different needs, the different pattern or health care utilization and different health status among the various age groups. Population pyramid shows age and sex distribution, (46.3%) is under 15 years. This pattern is more pronounced in Gaza strip, where (49.1%) are under 15 years. The age group under five years old still constitute the largest proportion with a percentage of 18.3% of population (19.6% in GS) . The ages 65 years and over constitutes (2.8%) of population, (2.5% in GS). Up to age 40-44 years, there is gender predominance towards males, in age group of 45-49 years there is no gender predominance. Then after, gender is ore predominance towards females (PNA, 2005).

Dependency ration is calculated as the number of persons below fifteen and above sixty-five per 100 persons aged of 15-64 years. In 2005the dependency ratio in Palestine dropped from 0 .97 in 2004 to 0.96 in 2005 .This dose not reflect actual economic dependency in Palestine because not all people enrolled in the workforce age of 15-65years in actually earning as students, housewives and unemployed persons. Life expectancy is at birth 2005 for women is higher than for men (72.3 Vs 71.2 years) (PNA, 2005).

Health services in Gaza Strip:

The Palestinian health care system has been developing side by side with the development of Palestinian society in general. The ministry of health (MOH) is working with other heath sectors in providing the primary heath services mainly with United Relief and work Agency for Palestinian Refugee (UNRWA), and Non Governmental Organization (NGOs) sector. At the end of 2005, there are 654 primary heath care (PHC) centers in Palestine; these centers are caring for about 3.7 million people (129 centers in the Gaza Strip and 525 centers in West Bank). The total number of PHC centers in the Gaza strip is 56 in comparison with 43 centers in 2000, with an increase of 30.2%. PHC system in Gaza strip is well established and functioning despite the high population density and overcrowded of people.

ELWafa Medical Rehabilitation and specialized surgery Hospital (EWMRSSH)

The hospital is the first and only nationally recognized inpatient rehabilitation hospital in Gaza Strip. It is a non-stock, nor-profit Palestinian non governmental organization established in 1996 to offer medical rehabilitation services for cases recovering from post acute and chronic physical and cognitive disabilities through in and outpatient departments, the rehabilitation team includes rehabilitation doctors and nurses, physiotherapists, occupational therapists, speech therapists and communication therapy specialist, and psychologist.

The hospital inpatient department has a capacity of 50 beds designated for different wards, including male, female, children, and a special care unit. Incurring a disability has devastating and long lasting effects on a person. Clients, who have experienced illness or injury of any origin, may recover physically after being managed medically but if there is a disability, there will be a need for continuous care and extensive rehabilitation programs to bring them back to optimal levels of independence. The hospital uses a holistic approach that sees the patient from all aspects of their problems and life situation. The interdisciplinary team creates shared goals and develops an individualized plan of care for each client.

Following the client's discharge there is notification system, which allows professionals at the community based rehabilitation program to further supervise our cases in the community and provide us with feed back regarding any new problem occurring to our client for the proper intervention. On discharge, the client receives a full and comprehensive report containing recommendations such as home medication, frequency of periodic laboratory examinations and medical check ups, home adaptations, assistive devices and the follow up program of physiotherapy at home if needed. The hospital provide assistive devices and medical aids to less privileged clients who would otherwise be unable to afford them (EL-Wafa medical rehabilitation hospital records, 2006).

CHAPTER "2"

Theoretical framework

CHAPTER "2"
THEORETICAL FRAMEWORK

2.1 Theoretical framework of the study:

The researcher study is based on the health belief model theory (HBM) which is a psychological model that attempts to explain and predict health behaviors. This is done by focusing on the attitudes and beliefs of individuals. The HBM was first developed in the 1950s by social psychologists Hochbaums, Rosenstock and Kegels working in the U.S (Public Health Services). The model was developed in response to the failure of a free tuberculosis health-screening program. Since then, the HBM has been adapted to explore a variety of long- and short-term health behaviors, including pressure sores development (Roden, 2004).

2.1.1 Core Assumptions and Statements of this model:

The HBM is based on the understanding that a person will take a health-related action (changes the position every 2 hours) if that person:

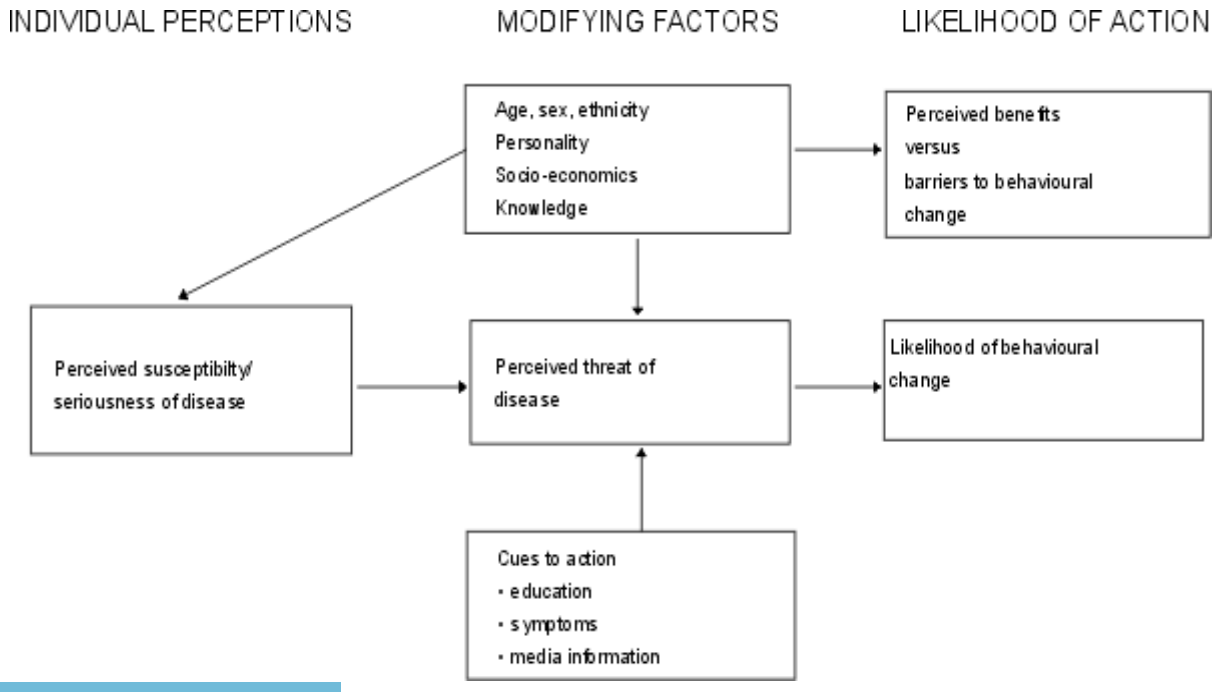
1. Feels that a negative health condition (i.e., pressure sore) can be avoided.
2. Has a positive expectation that by taking a recommended action, he/she will avoid a negative health condition (i.e., using air mattress will be effective in relieving pressure off the patient's skin).
3. Believes that he/she can successfully take a recommended health action (i.e., he/she can changing position every 2 hrs comfortably and with confidence).

The HBM was spelled out in terms of four constructs representing the perceived threat and net benefits: perceived susceptibility, perceived severity, perceived benefits, and perceived barriers. These concepts were proposed as accounting for people's "readiness to act." An added concept, cues to action, would activate that readiness and stimulate overt behavior. A recent addition to the HBM is the concept of self-efficacy, or one's confidence in the ability to successfully perform an action. This concept was added by Rosenstock and others in 1988 to help the HBM better fit the challenges of changing habitual unhealthy behaviors, such as being sedentary, smoking, or overeating.

Table (1) for Health Promotion Practice as Roden, (2004) mentioned :

Concept	Definition	Application
Perceived Susceptibility	One's opinion of chances of getting a condition.	Define population(s) at risk, risk levels; personalize risk based on a person's features or behavior; heighten perceived susceptibility if too low.
Perceived Severity	One's opinion of how serious a condition and its consequences are.	Specify consequences of the risk and the condition.
Perceived Benefits	One's belief in the efficacy of the advised action to reduce risk or seriousness of impact.	Define action to take; how, where, when; clarify the positive effects to be expected.
Perceived Barriers	One's opinion of the tangible and psychological costs of the advised action.	Identify and reduce barriers through reassurance, incentives, assistance.
Cues to Action	Strategies to activate "readiness"	Provide how-to information, promote awareness, reminders.
Self-Efficacy	Confidence in one's ability to take action	Provide training, guidance in performing action.

2.1.2 Conceptual Model as Roden, (2004) mentioned as in figure (3)



2.1.3 Scope and Application of the model:

The Health Belief Model has been applied to a broad range of health behaviors and subject populations. Three broad areas were be identified by as Roden,(2004) mentioned:

1) Preventive health behaviors, which include health-promoting (e.g. diet, exercise) and health-risk (e.g. smoking) behaviors as well as vaccination and contraceptive practices. 2) Sick role behaviors, which refer to compliance with recommended medical regimens, usually following professional diagnosis of illness. 3) Clinic use, which includes physician visits for a variety of reasons.

Example:

This is an example from two health actions:

Table (2)

Concept	Pressure sores education Example	Pressure sore Screening or Testing
1. Perceived Susceptibility	Patients' caregivers believe they can develop pressure sores.	Patients believe they may have been exposed to pressure sores.
2. Perceived Severity	Patients' caregivers believe that the consequences of getting pressure sores are significant enough to try to avoid.	Patients' caregivers believe the consequences of having pressure sores without knowledge or treatment are significant enough to try to avoid.
3. Perceived Benefits	Patients' caregivers believe that the recommended action of changing position would protect their patients from getting pressure sores.	Patients' caregivers believe that the recommended actions of prevention and management of pressure sores would benefit them by allowing them to get early treatment or prevention from developing sores.
4. Perceived Barriers	Patients caregivers identify their personal barriers to do changing position of their patients every 2hrs because of they have no enough time as they busy in their homes and explore ways to eliminate or reduce these barriers (i.e., teach them to learn anther family members the appropriate	Patients caregivers identify their personal barriers to apply what they learned as how to keep patients skin clean and dry ,assessment of skin ,changing position every 2hrs and explore ways to eliminate or reduce these barriers (i.e., brainstorm and disguise

	way of changing position of the patient every 2hrs .	options).
5. Cues to Action	Patients' caregivers received reminders cues for action in the form of lecture, group discussion, educational hand out in the form of incentive to help them in dealing and prevention of pressure sores.	Patients' caregivers received reminders cues for action in the form of lecture, group discussion, educational hand out in the form of incentive to help them in dealing and prevention of pressure sores.
6. Self-Efficacy	Caregivers confident in applying the effective measures in dealing and prevention of pressure ulcers.	Caregivers confident in applying the effective measures in dealing and prevention of pressure ulcers.

2.2 Definition of pressure ulcer:

Pressure ulcer is also called bed sore and decubitus ulcers is a lesion that caused by unrelieved pressure resulting in damage of underlying tissue usually over a bony prominence. Numerous terms have been used to describe necrosis that occurs as the result of obstruction of blood flow. (Randall and Braddom, 2000).

A normal, active individual with unimpaired sensory and motor function will change his position every few moments during waking hours and quite frequently during sleep. The patient who is paralyzed or debilitated may be unable to move him/her self. Patient without sensation in one part not automatically removes it from stimuli. Pressure ulcers occur under many different circumstances. Since proper circulation of arterial and venous blood flow is dependent upon normal muscle action, muscle disuse during immobility often decreases the circulatory exchange in the soft tissues. Prolonged pressure on an area more than 2-3 hours causes disturbances in the nerve impulses to and from this area and decreases blood supply, which in turn diminishes the nutrition to the part. Constant pressure over boney prominence such as sacrum, trochanters and heels compresses and obstructs the blood flow causing ischemia or local anemia of tissues, which leads to necrosis and ulceration (Randall and Braddom, 2000).

2.3 Pressure ulcers frequent sites:

Some anatomic sites are more prone to develop pressure ulcers in affected individuals. The hip and buttock regions account for 67% of all pressure sores, with ischial tuberosity, trochanters, and sacral locations being the most common. The lower

extremities account for an additional 25% of all pressure sores, with malleolar, heels, patellar, and pretibial locations being most common. The remaining 10% or so of pressure sores may occur in any location that is exposed to long periods of uninterrupted pressure. the nose, chin, forehead, occipital region, chest, back, and elbow are the infrequent sites for pressure ulceration. (Randall and Braddom, 2000).

2.4 Pathology of the pressure ulcers:

The main causes for development of pressure ulcers:

1. Pressure ulcers develop when direct downward pressure persisting on a bony site obstructs healthy capillary flow, ischemia and leading to tissue necrosis. It has been demonstrated that healthy the capillary pressure ranges around 30 to 32 mm Hg, and around 12 mm hg on the venous side.

   The pressure ulcer can range from a very mild pink coloration of the skin, which disappears in a few hours after pressure is relieved on the area, to a very deep wound extending to internal organs and into bone.
2. Shear and frictional forces pressure: Pressure is horizontal force that occurs when the skin and underlying subcutaneous tissues are pulled taunt and over-stretched , causing tissue deformity, obstructing blood flow , and tissue necrosis . These areas include the spine, coccyx hips, heels, and elbows and also depends on individual position. That means the effect of pressure and shear forces is higher in areas where soft tissue lies over bony prominence (Barns and Ward, 2004).

Predisposing factors for development of pressure ulcers:

1) Poor nutritional status.
2) Too thin and too fatty body weight.
3) Poor oxygenation of blood circulation.
4) Skin wetting with urine, stool and sweating.
5) Too dry skin.
6) Patients immobility due to paralysis or operation.
7) Elevation of tissue temperature.
8) Poor general condition. (Delisa,1998).

2.5 Stages of pressure ulcers :

Pressure ulcers are usually located over bony prominences and are graded or staged to classify the degree of tissue damage observed.

Stage (1): Non-blanchable erythematic of intact skin, the epidermis is not ulcerated. In individuals with darker skin, discoloration of the skin, warmth, edema, indurations, or hardness may also be indicators.

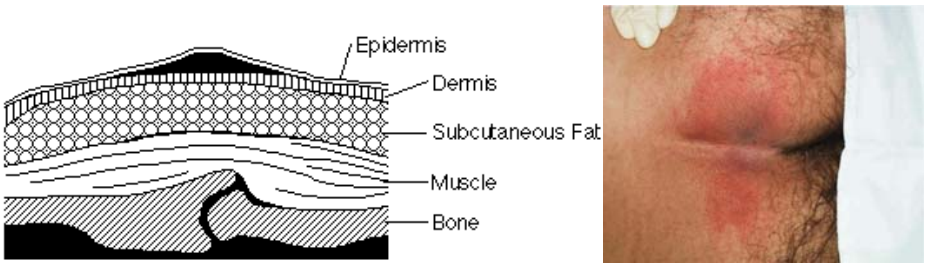


Figure (3): stage (1) pressure ulcer

Stage (2): Partial thickness skin loss involving epidermis, dermis, or both: The ulcer is superficial and presents clinically as an abrasion, blister, or shallow crater.

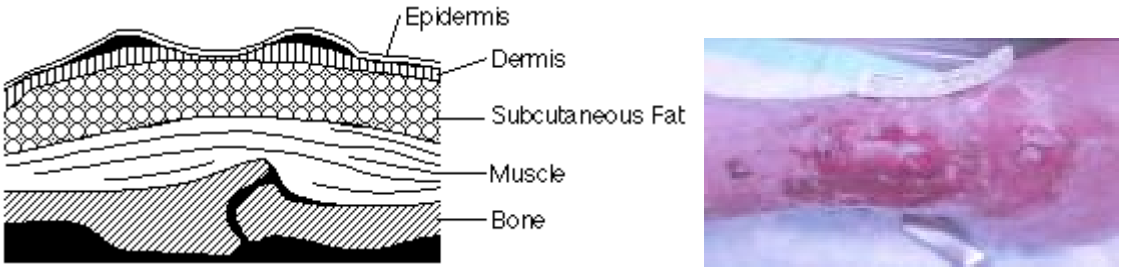


Figure (4): stage 2 pressure ulcer.

Stage (3): Full thickness skin loss involving damage to or necrosis of subcutaneous tissue that may extend down to, but not through, underlying fascia: The ulcer presents clinically as a deep crater with or without undermining of adjacent tissue.

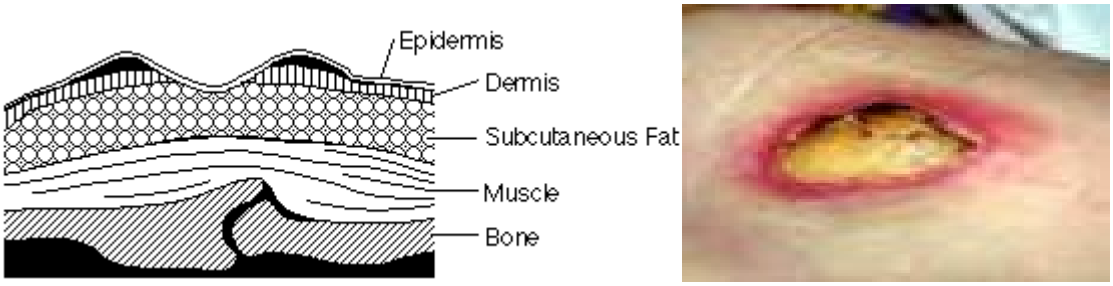


Figure (5): Stage 3 pressure ulcer.

Stage (4): Full thickness skin loss with extensive destruction, tissue necrosis, or damage to muscle, bone, or supporting structures (e.g., tendon, joint capsule). Undermining and sinus tracts also may be associated with stage (4) pressure ulcers (Delisa, 1998).

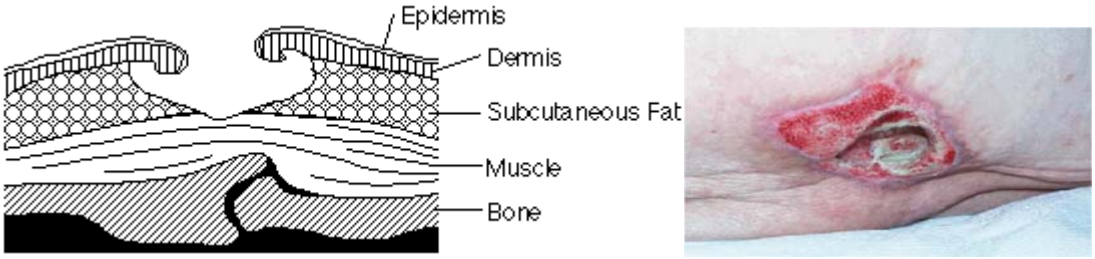


Figure (6): Stage 4 pressure ulcer.

2.6 Prevention of pressure ulcers:

Thomas et al. (1996) said that ulcers are extremely difficult to heal and may take many months for complete repair. Obviously, anything that can prevent the development of an ulcer should be given consideration. This has resulted in trying to identify risk factors that increase the susceptibility to pressure ulcers. Researchers have identified over 100 risk factors behind pressure ulcers .This lead to the development of pressure ulcer prediction tools, with two-Norton Scale and Braden Scale- the most widely used. The Norton Scale is composed of 5 broad clinical categories: physical condition, mental state, activity, mobility, and incontinence, with a score of 16 or less indicating increased risk for pressure-ulcer development. The Braden scale is composed of six broad clinical categories: sensory perception, moisture, activity, mobility, nutrition, and friction and shear, with a score of 18 or less indicating increased risk for pressure-ulcer development.

The most important step to prevent pressure-ulcer is to avoid prolonged pressure on one part of the body, especially the pressure points mentioned previously.

Changing position every 2 hours and pressure relive for patient on wheel chair every 10-15 minutes..

Using mattress overlays in gel and foam, alternating air mattresses, hospital beds for home and wheel chair cushions. air- filled or water -filled alternating pressure mattresses are useful but don't obviate the need for constant care to vulnerable areas.

Turning frames, oscillating beds for turning the bedridden patients.

The use of rubber rings and doughnut shouldn't be used which don't prevent ulcers but actually compress over larger area around the pressure ulcers.

No use of alcohol for skin message since this dries the natural oils of the skin and creates cracks.

A regular toilet schedule on a 24-hours basis time tailored for each patient will reduce the incontinence that contributes to skin breakdown.

If a pressure ulcer develops, prompt measure should be taken to promote healing, reduce the loss of serum protein.

Diet should provide enough protein, Carbohydrate, vitamins and fats to compensate for losses. (Randall and Braddom, 2000).

Nursing responsibility to prevent pressure ulcers:

Pressure sore have plagued the nursing profession for many years as a major health care problem in terms of a patient's suffering and financial cost. Pressure sores are increasingly common in hospitalized patients in the United States with a 63% increase from 1993 to 2003. The nurse leader is accountable for the occurrence of pressure sores, a nurse-sensitive indicator, by a scorecard, which is benchmarked against other facilities.The nurse leader must take a systematic approach in the prevention of pressure sores, with the strategy being consistent and motivating to the staff in order to improve patient outcome. The chief nursing officer, the unit manager, and the bedside nurse must all collaborate to prevent tissue injury in patients at risk for developing pressure sores and to promote wound healing in patients with existing breakdown (Randall and Braddom, 2004).

2.7 Management of pressure sores:

In many cases, however, with skilled care, the prognosis for bedsores is good. Expertise bedside treatment can heal most of the Stage - II- bedsores within a few weeks or longer. If conservative methods fail to heal a Stage III or Stage IV bedsore.

Reconstructive surgery often can repair the damaged area. Without proper treatment, however, pressure ulcers can be difficult to be treated once they go beyond stage 2.

In the early stages when the skin is still intact, pressure ulcers usually heal by themselves once the pressure has been remove. Bedsores that are advanced and will not readily heal can require incision, drainage, skin flaps, skin grafts, and bone resection. Surgeons can also provide conservative sharp bedside debridement of wounds, but wounds that are exceedingly progressed or unresponsive, may require plastic surgery.

In later stages, also, deep craters may need skin grafting and other forms of reconstructive surgery. Debridment of necrotic tissues, dressing properly can help in heeling of other stages of ulcers. No use of povidone, hydrogen peroxide as they have been shown to be cytotoxic.

Daily dressing with normal saline is very essential as it encourage the growth of granulation tissues. Semi permeable films to cover ulcers and sooth the skin, Antiseptic ointments, alginate dressing, hydrocolloid and hydrogel systems to remove necrotic tissues, agents to promote healing, Antibiotics necessary to treat deep ulcer and bone infections.

When ulcer become full of granulation tissues and free from infection surgical repair as direct closure, skin grafting, skin flaps and musculocutaneous flaps can be used to fast the heeling process. (Delisa, 1998).

The treatment of bedsores cannot be effectuated by the patient him or herself. Bed-confined people must rely on others to find out how to manage the pressure of the skin on the bed to mitigate against sores and lesions.

Turning the patient once every few hours or enabling the sufferer to get up for some exercise and fresh air regularly will do a lot to stop the development of bedsores. Healthcare providers recommend shifting position at least every two hours to avoid sustained pressure on the same area of the body. Some people might benefit from special mattresses or supports.

Treating bedsores needs a careful diet as well as good care

Dietary deficiencies may well hinder the body's ability to heal pressure ulcers as far as the latest research suggests. Malnourished nursing home patients with skin ulcers can find that ulcer healing is significantly enhanced by a high-protein diet compared with a lower protein diet. (Delisa, 1998).

2-8 Summary :

Pressure ulcers remain a complex and costly problem to the health care system. As the population ages, a greater number of individuals will be at high risk for developing pressure ulcers. An understanding of the physiologic changes that occur

with aging skin is important in preventing and treating pressure ulcers . Risk factor assessment and modification, when possible, can help to reduce the development of pressure ulcerations. Although the goal continues to be prevention, once a pressure ulcer does occur, a systematic and comprehensive approach to assessment and treatment is necessary to reduce healing times. Therefore, dealing with and prevention of pressure ulcers remain a challenge for bedridden patients' caregivers, so it is important to administer the training package to them to investigate its effectiveness in our local community.

CHAPTER "3"

LITERATURE REVIEW

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Introduction

3.1 Studies related to incidence and prevalence

3.2 Studies related to causes of pressure ulcer

3.3 Studies related to treatment and prevention

3.4 Studies related to management of pressure ulcer

3.5 Summary

Chapter (3)

Literature review

Introduction

Literature review is divided into 4 sub topics to provide comprehensive picture about the problem, the four subtopics are included (1) incidence and prevalence of pressure ulcers, (2) causes, (3) treatment and prevention and finally (4) the management of pressure ulcers.

3.1 Incidence and prevalence:

Landi et al (2004) reported that patients who suffer brain stroke are at high risk of pressure ulcer after the post acute rehabilitation period from 2002 to 2004 number of subjects who participated in the study were 1100 and was selected randomly from 22 Italian home health agencies. Instructional questionnaire was distributed to know incidence and prevalence of pressure ulcer among brain stroke patients the result showed that 30% of brain stroke patients have pressure ulcer.

Meklane (2003) emphasized that the prevalence of pressure ulcers was low in the pediatric population studied, but skin breakdown prevalence (excluding pressure ulcers) was higher, with 74% of all wound types consisting of excoriation/diaper dermatitis, skin tears, and IV extravasations sites. This descriptive study included documentation of findings from chart reviews and physical assessments of children. Nine children's hospitals from throughout the United States participated for a total sample of 1064 children. Subjects were inpatients in the children's hospitals between the ages of neonate to 17 years.

Dixon and Ratliff (2005) reported that Pressure ulcers in children are presumed to be relatively uncommon and have not been well studied. at the University of Virginia Children's Hospital conducted prevalence studies in June 2003 and in June 2004. All five pediatric units (the neonatal intensive care unit, the pediatric intensive care unit, two general acute care units, and the rehabilitation unit) were included in the study and reported prevalence rates range between 4.7% and 32.1% for hospital populations, between 4.4% and 33.0% for community care populations, and between 4.6% and 20.7% for nursing home populations.

Pressure ulcers occur in every setting where healthcare is delivered, but little is known about the prevalence and incidence of pressure ulcers in terminally ill persons who receive home hospice care. According to the National Pressure Ulcer Advisory Panel (2004), pressure ulcer prevalence remained relatively stable over the past decade at 10 to 11% with an apparent increase to nearly 15% by the end of the decade. The Panel has called for rigorous studies to determine the "true" incidence of pressure ulcers and both development and study of evidence-based best practices. It has been estimated that as many as 23.9% of residents in skilled care and nursing home facilities develop pressure ulcers at some.

The National Pressure Ulcer Advisory Panel; the Agency for Health Care Policy and Research, 2004 reported that in high-risk patients, including elderly individuals with femoral fractures and/or hip fractures, the incidence and prevalence is over 60%, in addition, an estimated 9% to 13% of patients admitted to acute care hospitals develop pressure ulcers.

1.8 million American are annually afflicted with pressure ulcers and the treatment cost $1.3 billion/year .

95% of pressure ulcers occur on the lower part of the body, 36% of which are on the sacrum (lower back) and 30% on the heel. 8% of all deaths in nursing homes are attributed to pressure 70% occur in people 70 years and older.

The prevalence rate in nursing homes is estimated to be 17-28%.

Among patients who are neurologically impaired, pressure sores occur with an annual incidence of 5-8%, with lifetime risk estimated to be 25-85%.

Moreover, pressure sores are listed as the direct cause of death in 7-8% of all paraplegics. Patients hospitalized with acute illness have an incidence rate of pressure sores of 3-11%.

Disturbingly, even with current medical and surgical therapies, patients who achieve a healed wound have recurrence rates of as high as 90%.(The National Pressure Ulcer Advisory Panel; the Agency for Health Care Policy and Research, 2004).

Anderson et al (2004) collected data on patients with pressure sores who underwent surgery between May 2004 and August 2004, and found that the incidence of pressure sore in neurosurgical patients was 9.5%.

3.2 Causes:

People afflicted with pressure ulcer typically includes elderly individuals, those who are neurologically impaired, and those who are acutely hospitalized. These individuals cannot protect themselves from the pressure ulcer exerted on their bodies unless they consciously change position or have assistance in doing so. Fully even the most conscious patient with caregivers and unlimited financial resources may also develop ulceration resulting from brief lapse or negligence of pressure relief on affected areas.

Sae-Sia et al (2005) reported that there is a relationship between increasing incidence of pressure ulcers and increasing back temperature specially at sacral region, in this study as sacral temperature was measured in 17 hospitalized neurological impaired patients who were lying on back. The data suggest that temperature may increase at least 1-2 degrees after 24-96 hr before sacral pressure ulcer development. Therefore, sacral temperature may be an objective predictor of sacral pressure ulcer development in hospitalized neurologically impaired patients.

Moya (2001) found that shearing forces cause perforating arteries to become angulated and disrupting the supply of blood so it is considered as high risk for sacral ulcer development because when head of the bed is elevated a greater compressive force is placed on posterior sacral tissues than when the bed is in flat position.

Stephen and hyanes (2004) studied the relation ship between smoking and development of pressure sores due to arteriosclerosis of blood vessels in two comparison groups in general hospital in Ohayo and sample was 80 clients who were selected randomly. The result showed that 20% of the sample developed pressure ulcers due to smoking because of the skin receive insufficient blood supply and ischemic may developed.

Statich (2004) emphasized in descriptive study about the risk factors of pressure ulcer in nursing home and the sample was 500 and the result showed that reduced mobility,

incontinence, increase confusion and reduce oral intake are considered predisposing factors for developing pressure ulcer.

Aronovitch (2007) said that surgery puts patients at high risk for developing due to long time in operation room and the median operative time for patients development a pressure ulcers was 4hrs. This survey was done in 21 states in USA.

Aronovich (2007) identified that the risk factors that are considered to contribute to pressure ulcers are immobility, low serum albumin level, fecal incontinence, confusion and malnutrition.

Bergstrom (2003) identified that the risk factors that are associated with the development of pressure ulcers in children admitted to the pediatric intensive care unit (PICU) are: the presence of edema, increasing length of stay, patients on increasing positive-end expiratory pressure, not turning the patient. The result showed that 5% of the children who have edema has pressure ulcer and 15% of the participants who stayed in bed wit out mobility more than 8hrs has pressure ulcer.

Bergstrom (2003) emphasized that geriatric brain stroke people who are immobile for at least 2 days had high risk for pressure ulcers.

Anderson et al (2004) found a relation ship between eating difficulties(dysphasia) , malnutrition, inability to eat without assistance. Those items can leas to development of pressure ulcers among brain stroke patients who were admitted to rehabilitation institutions

3.3 Treatment:

Dressing of pressure ulcer:

Living tissue requires moisture for transport of oxygen and nutrients. A moist ulcer environment promotes the migration of fibroblasts and epithelial cells; growth factors are present in the serous exudate that speed healing. Dry environment is conducive to necrosis and eschar. Ulcer healing is delayed if there is bacterial infection within the wound bed. Cleansing and application of topical antibiotics may be sufficient for superficial infection with minimal surrounding Erythema. Systemic antibiotics are

indicated for deep/surrounding tissue infection, or if ulcer healing is delayed. Cleanse wounds that are expected to heal with non-cytotoxic fluid as normal saline. (Bergstrom 2003).

Types of dressing:

1. Polyurethane foams: Most absorptive used under a covering secondary dressing.
2. Alginates works to desiccate an overly wet wound. Prevents maceration of surrounding skin from excess fluid is hemostatic and may reduce risk of infection.
3. Hydro gels used for wounds with larger volumes of exudate. Require a secondary dressing to secure.
4. Hydrocolloid wafers, self-adhesive. Promotes autolysis, angiogenesis and granulation. Remains in place for 5-7 days. Often used to "seal" a wound that is otherwise clean in order to promote healing. Can also be used to seal an underlying dressing in order to maintain a moist environment in which the wound can heal.
5. Thin films for skin at risk or Stage I pressure ulcers to hold another type of absorbent dressing in place.
6. Cotton Gauze. Used to cover the primary dressing. Rarely the appropriate dressing for a significant skin ulcer. Note: Saline wet-to-dry dressings are only useful for mechanical depridment.(Aronovich , 2007)

Depridment:

Before doing depridment provide adequate analgesia . Necrotic tissue must be removed for ulcer healing; surgical depridment is the fastest and most effective method when there is healthy surrounding tissue. Depridment gels on the ulcer, under an occlusive dressing are available for ulcers that don't require surgery or when surgical depridment is incomplete. These products come with or without enzymes to encourage autolytic or enzymatic depridment. (Romanelli , 2006)

Use of honey in treatment of pressure ulcer:

Honey contains many minerals and vitamins beneficial to man. one of the most important properties seems to be its antibiotic action.

Honey has been shown to be superior to certain conventional antibiotics in treating some infections.

This bactericide (bacteria-killing) property of honey is named "the inhibition effect". Experiments conducted on honey show that its bactericide properties increase twofold when diluted with water.

Honey is of value in treating burns, infected surgical wounds and ulcers. Honey is very

viscous, enabling it to absorb water from surrounding inflamed tissue. For example, a study in West Africa showed that skin grafting, surgical depridment and even amputation were avoided when local application of honey to wound promoted healing, whereas conventional treatment failed. By covering the wound with honey and a bandage. (Delisa, 1998).

Goode and Thomas (1997) mentioned that local care of pressure ulcers include wound cleaning, debridement, wound cleaning and dressing should remove loose debris and exudates but should not damage viable tissues.

Anderson et al (2006) mentioned that Wound debridement is an essential part of effective wound care. There are many methods of deriding wounds and it is important that patients are involved in the decision so that they are able to give informed consent.

Romanelli (2006) reported that Activated polyacrylate dressings facilitate wound debridement by retaining moisture while attracting and retaining proteins and bacteria.

Parnel et al (2005) mentioned that Considerable progress has been made in the prevention and treatment of pressure ulcers but they remain a significant healthcare problem, particularly among the elderly. Treatment may include the use of wound dressings such as hydrogels as well as debridement products that contain relatively high concentrations of various enzymes. Unlike enzymes found in debridement products, low concentrations of endopeptidase enzymes can cleave to denatured proteins. Many endopeptidases have been reported to enhance the healing process.

3.4 Prevention:

Pressure ulcer prevention entails two major steps:

1. Identifying patients at risk.
2. Reliably implementing prevention strategies for all patients identified at risk.

Prevention strategies include six key elements:

1) Conduct a pressure ulcer admission assessment for all patients,.
2) Reassess risk for all patients daily.
3) Inspect skin daily.
4) Manage moisture.
5) Optimize nutrition and hydration.
6) Minimize pressure.

A multidisciplinary team to prevent development pressure ulcer prevention program. The development of pressure ulcers is a painful, expensive, and unnecessary harm event that is too prevalent in American hospitals. The prevention of pressure ulcers is a key intervention that is not new, not expensive, and has the potential to save thousands of patients from unnecessary harm (Delisa, 1998).

Pressure sores have plagued the nursing profession for many years as a major health care problem in terms of a patient's suffering and financial cost. Pressure sores are increasingly common in hospitalized patients in the United States with a 63% increase from 1993 to 2003. The nurse leader is accountable for the occurrence of pressure sores, a nurse-sensitive indicator, by a score card which is benchmarked against other facilities. The nurse leader must take a systematic approach in the prevention of pressure sores, with the strategy being consistent and motivating to the staff in order to improve patient outcome. The chief nursing officer, the unit manager, and the bedside nurse must all collaborate to prevent tissue injury in patients at risk for developing pressure sores and. promote wound healing in patients with existing breakdown by family training for patients and family , distribution of brochures and pamphlets about pressure ulcers prevention and continuous education of health providers regarding pressure ulcers management. (Delisa, 1998).

Romanelli (2006) found that pressure ulcers are a major problem, especially in nursing home patients, although they are regarded as preventable and there are many pressure relieving methods and materials. One such pressure relieving material is the recently developed Australian Medical Sheepskin, which has been shown in two randomized controlled trials to be an effective intervention in the prevention of sacral pressure ulcers in hospital patients. However, the use of sheepskins has been debated and in general discouraged by most pressure ulcer working groups and pressure ulcer guidelines, but these debates were based on old forms of sheepskins. Furthermore, nothing is yet known about the (cost-effectiveness of the Australian Medical sheepskin in nursing home patients. The objective of this study is to assess the effects and costs of the use of the Australian Medical Sheepskin combined with usual care with regard to the prevention of sacral pressure ulcers in somatic nursing home patients, versus usual care only. Methods/design In a multi-centre randomized controlled trial 750 patients admitted for a primarily somatic reason to one of the five participating nursing homes, and not having pressure ulcers on the sacrum at admission, will be randomized to either

usual care only or usual care plus the use of the Australian Medical Sheepskin as an overlay on the mattress. The result is the incidence of sacral pressure ulcers in the first month after admission; sacrum pressure ulcer free days; costs; patient comfort; and ease of use. The skin of all the patients will be observed once a day from admission on for 30 days. Patient characteristics and pressure risk scores are assessed at admission and at day 30 after it.

Hiser et al (2006) reported that all hospitals should be performing risk assessment on all admitted patients at the time of admission. And all patients found to be at risk should be placed immediately on a support surface that has been demonstrated to significantly reduce pressure ulcer incidence when an ulcer is not already present , the results of such a risk assessment must be made known to the patient and to the patient's family. The risk of bedsore development in hospitals is very high, especially for the elderly. At-risk patients and their families must be advised how important frequent repositioning, good nutrition, and avoidance of shear are before any sign of a bedsore develops. To combat this, hospitals are pushing screenings of all incoming patients from head to toe for skin issues that could lead to pressure ulcers. They are using visual examinations, ultrasound and other technologies that can help identify skin with tissue damage. In some cases, they are photographing areas of a patient's skin to document how it changes from day to day.

Clay (2000) reported that nursing research is invaluable and an integral part of nursing care, which aids in shaping and delivering quality care regarding prevention and treatment of pressure sores. Understanding predisposing factors and the principles of pressure sore prevention, in conjunction with being able to select appropriate devices and equipment to reduce the risk of pressure sore development, are key factors to a successful prevention and treatment plan. The nurse leader must take a systematic approach in the prevention of pressure sores, with the strategy being consistent and motivating to the staff in order to improve patient outcome.

Clay (2000) recommended that frequent turning of patient's position every 2hrs following the "rule of 30": the head of the bed should not be elevated greater than 30 degrees and the body should be placed in a 30-degree lateral incline position on either side. Special cushioning devices and pressure-reducing mattresses should be used and are beneficial in minimizing pressure, friction, shearing, and moisture.

Mechanical injury to the skin from shearing forces and friction during repositioning and transferring maneuvers should be prevented by having the appropriate equipment and staff available.

Lift sheets, transfer boarders, over-bed trapezes, and personal support devices with proper body mechanics should be used to facilitate these maneuvers when indicated to prevent staff injuries.

Proper skin care, adequate nutritional intake must be assessed and managed, either by enteral or parenteral administration. When a patient is unable to consume enough nutrients orally

Adequate nutrition must be obtained through tube feedings or hyper-alimentation. These interventions become increasingly challenging for the health care providers in the elderly and in patients with complex disease processes; especially with limited staffing.

According to Romanelli (2006) education of nurses, doctors ,care assistants, patients and their relatives is vital in dealing and prevention of pressure ulcers . In order to achieve this it is desirable to have a designated specialist nurse whose aims are to define, develop, implement and evaluate a pressure ulcer prevention policy. Patients with pressure ulcers suffer pain and distress from wounds that can require treatment for many months following discharge from hospital.

Clay (2000)found that pressure ulcer prevention and management is beneficial not only to patients but also to the health care system so education for healthcare professionals is an important factor in the prevention and management of pressure ulcers; however, in the current climate releasing staff to attend study days is becoming difficult. In some locations, staff has to travel long distances in order to attend while locally based study days are poorly attended. Developing e-based learning system was seen as a realistic option for nurses working in Trust within a large geographical area .

The support surface provided may not necessarily have to be an expensive high-technology design in order to achieve promising results working at a 77-bed long-term-care facility to implement inexpensive 2-inch and 4-inch foam overlays to those judged at-risk based on Braden Scale assessment. They used a staged approach providing

overlay alone, turning schedule alone (none had been in place prior to protocol implementation), or both turning schedule and overlay, depending on the level of risk identified. This approach was successful in reducing the 6-month incidence rate from 23% preprotocol to 5% post protocol. (Hiser et al, 2006).

Hiser & colleagues (2006) reported that hospitals in the US are increasingly concerned with the rising number of hospital-acquired pressure ulcers. To reduce the pressure ulcer in 2002-2003 average hospital-acquired pressure ulcer prevalence rate of 9.2%, a regional medical center in southeastern US initiated a process improvement and education program, the Medical Intensive Care Unit was found to have the highest number of hospital-acquired pressure ulcers among the five units participating in the study. As part of a new Pressure Ulcer Strategic Plan, significant changes were made to the organizational infrastructure and processes, which included implementing the Braden Risk Scale Assessment Tool in place of the Norton Risk Scale.

The Pressure Ulcer Prevention Protocol states patients should be turned at least every 2 hours while in bed, and every 15 to 30 minutes while in a chair (Hiser et al., 2006).

An interesting study from Japan was published in the Journal of the Royal Society of Medicine in 1999. Pressure ulcer prevalence and incidence were assessed in 275 patients, who were either admitted to a well-staffed internal medicine ward during a 12-month period or who were present on day 1 of the study. Methods of study: Patients scored as being at high risk on the Braden scale (score 16 or less) received active preventive care, weekly assessment and continuous monitoring. The preventive measures included turning the patient every two hours, skin inspection at least once a day, the use of an alternating pressure air cell mattress, keeping the skin clean and dry by bathing, rinsing the perineum after every bowel movement, evaluation of nutritional status and fluid/electrolyte balance, and urinary catheter and bowel management. Avoidance of friction when transferring from bed to chair and vice versa. If skin redness was detected that did not resolve within 30 minutes, a hydrocolloid dressing was applied to the reddened area which was continuously monitored until the redness disappeared. Incidence and prevalence figures found were reported to be the lowest achievable for this patient population (Hagisawa & Barbenel, 1999).

Garber (2006) said that enhanced, individualized education about pressure ulcer prevention and management was effective in improving pressure ulcer knowledge during hospitalization for surgical repair of a pressure ulcer

The prevention and treatment of pressure ulcers is a growing public policy concern. driven by a more informed consumer and the exploding costs of care, policy makers are looking for ways to integrate health-care research and long-term care practices in an effort to improve the quality of care and ultimately reduce costs This paper presents a case study that demonstrates how training is being integrated at the facility level, utilizing a collaborative. The collaborative was a joint public-private partnership supported through resources from state, federal, and private agencies, with an overarching goal of delivering high-quality, easily accessible geriatric education and training. Direct care providers and other practitioners were recruited to attend a live, interactive videoconference that featured nationally known experts. The content of the educational program was drawn from nationally accepted guidelines that discuss appropriate procedures for wound cleansing, dressings, positioning techniques, proper nutrition and risk assessment protocols. Evaluation of the program indicated that the highest-rated objectives related to the application of training content in the implementation of treatment and prevention procedures important to quality patient care. An examination of publicly available data revealed that an escalating increase in the percentage of facilities in the state cited for deficiencies because of the incidence of pressure ulcers from 1996 to 1999 was reversed in 2000, subsequent to the videoconference. Future programs are planned to sustain the availability of opportunities for practitioners to get critical updates from the experts in the field via live interactive sessions (Tetterton et al, 2005).

Hayes (1999) measured the effects of a teaching intervention, including information on risks, assessment, and treatment of pressure ulcers, on hospital nursing staff member's knowledge scores. The teaching intervention had a significant effect on knowledge score**.**

Rosen et al (2004) made study to know if educating nursing home staff about pressure ulcer prevention reduces the differential risk of pressure ulcer development in black and white nursing home residents. Black residents were more likely to have multiple Stage II-IV pressure ulcers and were less likely to have Stage I pressure ulcers identified at

baseline compared with white residents. The education intervention effectively reduced the rate of pressure ulcers for all residents and eliminated the racial disparity noted during the baseline period.

Moya (2001) emphasized that elderly patients at risk of pressure ulcer must be carefully identified for effective prevention. Preventive measures must be rapidly implemented in order to reduce or eliminate factors contributing to the development of pressure ulcer. Risk factors include prolonged or heavy pressure, friction, shearing force, malnutrition, and bowel incontinence. The position of patients with severe sensorial disorders should be changed every 2 or 3 hours. Bed rest should be interrupted as soon as possible, using a cushioned chair. Reclining in the strictly lateral position (with pressure on the trochanters) must be avoided. A 30 degrees dorsal inclination in the lateral position is preferable.

Michael (2006) identified the benefit of the patients' educational materials as pamphlets and brochures to teach patients about the prevention and care of skin and pressure ulcers in urban hospitals, home care agencies and public clinics in the mid west.

Bours et al (2002) assessed the prevalence of pressure ulcers and use of guidelines for prevention and treatment of pressure ulcers as importance of changing position every two hours, well-balanced nutrition, use of support surfaces and effective implementation of these guides to prevent pressure ulcers.

Stephen and Hyanes (2006) assessed the effectiveness of pressure relieving beds, mattresses and cushions (support surfaces) in the prevention and treatment of pressure sores. There is good evidence of the effectiveness of high specification foam over standard hospital foam, and pressure relief in the operating theatre. There is good evidence of the effectiveness of air-fluidized and low air loss devices as treatments. Overall, however, it is impossible to determine the most effective surface for either prevention or treatment.

Vanderwee et al (2007) studied the effectiveness of alternating pressure air mattresses (APAMs) in prevention of pressure ulcer development .Patients identified as being in need of prevention based on the presence of non blanch able erythema had a tendency to develop fewer pressure ulcers on an APAM.

Gunningberg et al (2000) investigated that visco-elastic foam mattresses are more effective than standard hospital mattresses in reducing the incidence of pressure ulcers in patients with hip fractures.

Smeltzer and Bare (2000) emphasized that elderly patients at risk of pressure ulcer must be carefully identified for effective prevention. Recommended risk scales are insufficiently used in everyday practice. Preventive measures must be rapidly implemented in order to reduce or eliminate factors contributing to the development of pressure ulcer. Risk factors include, among others, prolonged or heavy pressure, friction, shearing force, malnutrition, and bowel incontinence. The position of patients with severe sensorial disorders should be changed every 2 or 3 hours. Bed rest should be interrupted as soon as possible, using a cushioned chair. Reclining in the strictly lateral position (with pressure on the trochanters) must be avoided. A 30 degrees dorsal inclination in the lateral position is preferable. The reclining-sitting position with a greater than 30 degrees inclination should be avoided as it increases the shearing forces applied to the sacrum. The ventral position is inappropriate for the elderly. Mattresses, mattress covers, cushions and various other aids have been developed specifically for the prevention of pressure ulcer but the evaluation and choice of material requires careful assessment using pressure sensors. General measures designed to facilitate position changing help reduce the risk of friction. The general practice of massage, widely used in France, is not based on confirmed arguments of efficacy. On the contrary, certain studies would show that such methods can have unfavorable effects. Prevention of under nutrition and renutrition cannot be overlooked. Maintaining the patient in a dry environment (particularly in case of incontinence) and use of emollients to prevent skin drying are recommended. Written prevention protocols for education of patients, family, and health care personnel are indispensable.

Berstrom (2003) reported the important issue of patient/caregiver involvement in relation to pressure ulcer prevention and management is referred to in the Executive's (1994) draft document on the prevention and management of pressure ulcer, commonly known as the 'Pressure sore consensus guidelines'. It states that: "A multidisciplinary plan of care should be negotiated with individual patients and/or caregiver taking into consideration their knowledge and experience".

Moya (2001) stressed that team approach is required for the surgical management of the spinal cord-injured patient with a pressure ulcer, beginning preoperatively with patient selection and preparation, continuing through wound debridement and flap closure, and progressing to rehabilitation and patient education. Although possible surgical complications are numerous and the recurrence rate is relatively high, the surgical

management of patients with pressure ulcers can be very rewarding. Goals for surgical closure of pressure ulcers include reduction of protein loss through the wound, reduction of rehabilitation costs, prevention of progressive osteomyelitis, and improvement of patient hygiene. The ultimate reward is the restoration of patients to the rehabilitated sitting position so that they can enjoy productive and happy lives.

Bergstrom (2004) mentioned that preventive management requires relief of pressure, skin care, control of spasms, release of contractures and treatment of infection. Conservative treatment succeeds only when pressure on the ulcer site is relieved. Surgical treatment involves primary, secondary and tertiary procedures. Benefits of surgical closure include avoidance of protein loss, prevention of osteomyelitis and other infections, improved appearance and prevention of carcinoma and amyloidosis. A coordinated team approach, incorporating patient education is effective.

Moya (2001) investigated in randomized clinical trial the effectiveness of a home-based educational intervention in reducing the incidence and the risk of falls and pressure ulcer in adults with progressive neurological conditions. Sample was 100 caregivers of neurological clients in 4 rehabilitation hospitals in USA by using experimental design pretest – post test data collection was obtained ,educational program was administered. The result was the incidence of pressure ulcer reduced from 7% prior to educational program to 5% post education.

3.5 Summary:

It is concluded that the pressure ulcer is an area of localized damage to the skin and under lying tissue. There are many predisposing factors as immobility, poor general health, too dry or wet skin, wrinkled bedding and clothing contribute to skin injury, poor nutritional status, elevated tissues temperature, skin maceration with sweat, urine and stool, altered mental status, smoking, poor oxygenation of blood so the pressure ulcer always remains a challenge. The preventive management requires relief of pressure, skin care, control of spasms, release of contractures and treatment of infection. Conservative treatment succeeds only when pressure on the ulcer site is relieved. The best approach is preventive care through continuous assessment of high-risk patients

based on the tools provided. This plays a vital part in the management process. Therefore, education of heath providers, patients and their families is essential.

CHAPTER "4"

METHODOLOGY

CHAPTER "4"

METHODOLOGY

4.1 Introduction

The chapter describes the methodology that was used in this research. The adopted methodology to accomplish this study used the following techniques: the information about the research design, population, sample size and sampling, research setting, questionnaire design, statistical data analysis and content validity and pilot study.

4.2 Research design and procedures:

The aim of this study was to establish a training package for pressure ulcer prevention in the community which is easily, applicable by home caregivers and is cost effective and to find out the effectiveness of pressure ulcer training in managing pressure ulcer in the community by care givers.

For the purpose of this study, the researcher used experimental design (pre test – post test), it is one type of quantitative research designs in which the researcher is active agent by introducing intervention which is the training package for the caregivers of bedridden patients, data was collected before(preset questionnaire) and after the intervention (posttest questionnaire) which is appropriate for measuring change. (Polit and Beck, 2004).

The first phase of the research thesis included identifying and defining the problems and establishment objectives of the study and development of research plan .The second phase of the research included summary of the literature review. The third phase included questionnaire which was prepared by the researcher .The forth phase of the research focused on the modifications of the questionnaire design through distributing the questionnaire to pilot study. The purpose of the pilot study was to test and prove that the questionnaire questions are clear to be answered in a way that help to achieve the target of the study and it was important to ensure that all information received from samples would be useful in achieving research objectives. The questionnaire was modified bases on the result of the pilot study. The fifth phase of the research focused on distributing questionnaire. This questionnaire was used to collect the data in order to achieve the research objective. The sixth phase of the research was data analysis and

discussion. Statistical package for the social, sciences (SPSS) was used to perform the required analysis. The final phase included the conclusions and recommendations.

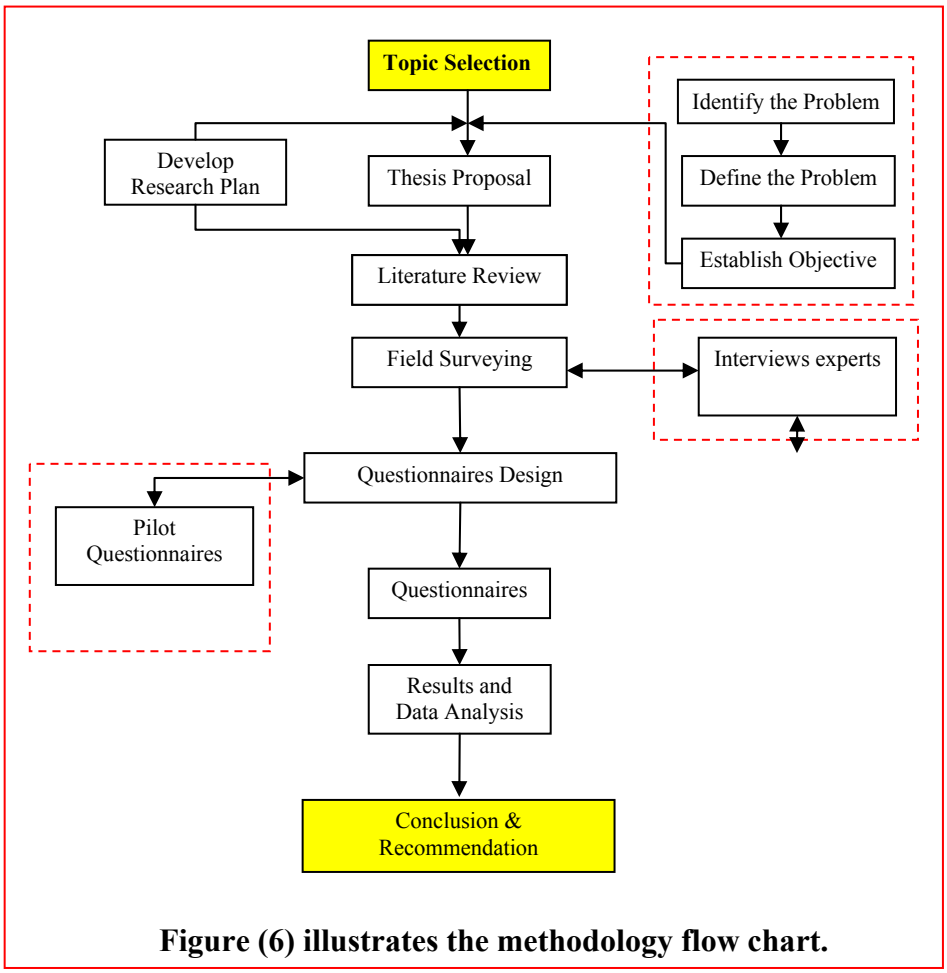


Figure (6) illustrates the methodology flow chart.

4.3 Research setting:

The study was conducted in 5 governmenats of Gaza Strip: Northern of Gaza, Gaza City, Middle Zone, Khanyounis and Rafah. The field work –data collection –took place between July and October 2007.

4.4 Research population:

The study population was all caregivers of bed ridden patients who has at least two weeks experience as caregivers of bed ridden patients ranged in age from 18 to 50 years who had been admitted in EL-Wafa medical rehabilitation hospital and specialized surgery and discharged to homes in the period between July 2007and October 2007 in Gaza strip.

4.5 Sample Size and Sampling:

The sample is a sub set of the population it is the portion that is a actually being observed or studied. Sample size was 80 participants. They were all the caregivers of

the bed-ridden patients who were included in the study , male and female who were admitted to EL-Wafa medical rehabilitation hospital for at least two weeks and still in the hospital and at high risk to develop pressure ulcer.

Convenient sample was used, this method of sampling is a non probability sampling which was used because of the presence of the most conveniently available participants in the study so the researcher used the convenience sample to conduct the study to save time ,cost and convenience. A sample of convenience has advantages and disadvantages. The researcher agrees with Indrayan and Sarmukaddam (2001) that the sample of convenience reduce cost, save time and increase the co-operation of the individuals who agree to participate in the study. Because of the importance of generalizing the sample results, the researcher will implement appropriate inclusion and exclusion criteria

4.5.1 Inclusion criteria:

At the time of the study, a total number of 80 caregivers of the bed-ridden patients conveniently selected from the files of bed-ridden patients who need care givers.

The study has the following inclusion criteria:

Inclusion criteria of caregivers:

1) Caregivers of bedridden patients(male and female).
2) The age of caregivers ranges from 18-50 years old.
3) Caregivers must be healthy and free from medical diseases, which may interfere with caring for their patients.
4) The participant was able to verbally communicate with the interviewer.
5) The participant has the time and willingness to participate in the study.

Inclusion criteria of the clients

1) The clients are bed ridden and diagnosed by physician as bed-ridden patient.
2) Bed ridden patients were admitted to medical rehabilitation hospital for at least two weeks and currently in EL-Wafa medical rehabilitation hospital at the time of data collection and after that discharged to homes.
3) Patient needs caregiver partially or completely.

4.5.2 Exclusion criteria:

1. Caregivers who refused to participate in the study.

2. Caregivers who have chronic diseases, which interfere with providing, care for their patients.

4.5.3 Ethical consideration and procedure:

1. Autonomy of participants and confidentiality of information were assured.
2. Approval to conduct the study was obtained from relevant research committee in the Islamic University in Gaza Strip.
3. Formal approval to conduct the study at EL-Wafa medical rehabilitation hospital was obtained.
4. All the participants have been informed that the participation is voluntary, and that even after the interview begins they can refuse to answer any specific questions or decide to terminate the interview at any point.
5. The subjects in the study who agreed to participate were asked to sign the consent form prior to the study.

4.6 Data collection:

In order to collect the required information, the researcher prepared an Arabic questionnaire and piloted it. The validity and reliability of the instrument was measured after collecting the data from participants in the pilot study.

4.6.1 Method of data collection:

According to the review of literature and after interviewing experts who were dealing with the subject at different levels, all the information that could help in achieving the study objectives were collected, reviewed and formalized to be suitable for the study survey. After many stages of brain storming, consulting, amending, and discussing with the supervisor, a questionnaire was developed with closed and open questions.

The questionnaire was designed in the Arabic language, as most members of the target population were unfamiliar with the English language and to be more understandable. An English version was developed as a scientific reference .Unnecessary personal data, complex and duplicated questions were avoided. The questionnaire was provided with a covering letter which explained the purpose of the study, the way of responding, the aim of the research and the security of the information in order to encourage high response.

The study instrument:

The questionnaire design was composed of two sections to accomplish the aim of the research, as follows:

1. The first section included personal information.
2. The second section included the information about bed-ridden patients.

All the answers on the paragraphs are based on five- items Likert scale.

Classification or item	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Scale	1	2	3	4	5

4.7 Validity of the instrument:

Validity refers to the degree to which an instrument measures what it is supposed to be measuring (Pilot and Hungler, 1985). Validity has a number of different aspects and assessment approaches. There are two ways to evaluate instrument validity: content validity and statistical validity, which include criterion-related validity and construct validity.

4.7.1 Content Validity of the instrument:

Content validity test was conducted by consulting two groups of experts. The first was requested to evaluate and identify whether the questions agreed with the scope of the items and the extent to which these items reflect the concept of the research problem. The other was requested to evaluate that the instrument used is valid statistically and that the questionnaire was designed well enough to provide relations and tests between variables. The two groups of experts did agree that the questionnaire was valid and suitable enough to measure the concept of interest with some amendments.

4.7.2 Statistical Validity of the instrument:

To insure the validity of the questionnaire, the investigator used Criterion-related validity test (Pearson test) which measure the correlation coefficient between each paragraph in one field and the whole field of the questionnaire that have the same level of similar scale.

4.7.3 Internal consistency of the questionnaire:

Internal consistency of the questionnaire was measured by a scouting sample, which consisted of thirty subjects through measuring the correlation coefficients between each

paragraph in the field and the completely filed. The table No. (4) shows the correlation coefficient and p-value for each field paragraph. As shown in the table No. (4) the p-Values are less than 0.05 or 0.01,so the correlation coefficients of this field are significant at $\alpha = 0.01$ or $\alpha = 0.05$, so it can be said that the paragraphs of this field are consistent and valid to measure what it was set for.

Table No. (4)

Correlation coefficients between each paragraph in the field and the whole filed

paragraph No.	paragraph	Person correlation	p-value	Significance level
1	Pressure ulcers are redness in the skin	0.830	0.000	**
2	Pressure ulcers are skin ulcerations	0.735	0.000	**
3	The ulcer is liquid-filled bubble	0.708	0.000	**
4	The ulcer is a black scar	0.836	0.000	**
5	I know the causes of ulcers	0.623	0.000	**
6	The patients is in coma	0.684	0.000	**
7	The patient is unable of on rolling him/her self on bed	0.807	0.000	**
8	The patient is capable of moving his four limbs on the bed	0.537	0.003	**
9	The patient is capable of rolling himself from right to left.	0.864	0.000	**
10	The patient is capable of rolling himself from left to right.	0.576	0.001	**
11	The patient has a sense of all of his body	0.564	0.001	**
12	The patient is capable of walking	0.804	0.000	**
13	I know spots where ulcers occur	0.839	0.000	**
14	I know ulcers occur above bone prominences	0.731	0.000	**
15	I believe ulcers occur at heals, low back, waist sides, and scapula	0.748	0.000	**
16	I check ulcer spots every 2 hours	0.425	0.019	*
17	I check ulcer spots sometimes	0.525	0.003	**
18	I clean patient's body everyday	0.852	0.000	**
19	I clean patient's body every week	0.629	0.000	**
20	I clean patient's body after urination and defecation	0.615	0.000	**
21	The patient has control over urination	0.805	0.000	**
22	The patient has control over defecation	0.838	0.000	**
23	Diapers are changed on regular basis	0.368	0.046	*

paragraph No.	paragraph	Person correlation	p-value	Significance level
24	The patient has a medical bed	0.560	0.001	**
25	The patient has medical mattress	0.744	0.000	**
26	The patient has air mattress in order to prevent ulcers	0.812	0.000	**
27	I believe air mattress prevents ulcers	0.764	0.000	**
28	I have a good knowledge of rolling in bed	0.709	0.000	**
29	The patient has a wheel chair	0.877	0.000	**
30	The patient has a wheel chair mattress	0.496	0.005	**
31	The patient sits on the wheel chair more than 30 minutes	0.647	0.000	**
32	The patient is regularly lifted to ease pressure on back while sitting on wheel chair	0.639	0.000	**
33	The patient helps on easing pressure on back while sitting on wheel chair	0.689	0.000	**
34	The patient is fed orally	0.598	0.001	**
35	The patient experiences food swallowing difficulty	.0.645	0.000	**
36	The patient experiences liquid swallowing difficulty	0.830	0.000	**
37	Patient is fed through nasogastric tube.	0.904	0.000	**
38	Food quality is good	0.768	0.000	**
39	The food contains meat, veggies, fruits and corns	0.643	0.000	**
40	Patient receives 2 liters of water a day	0.571	0.001	**
41	Bed ulcers are critical for patient's health	0.423	0.020	*
42	Bed ulcers require treatment	0.419	0.021	*
43	Bed ulcers hinder Active daily living`	0.663	0.000	**
44	Bed ulcers need hospitalization to be treated	0.647	0.000	**
45	Bed ulcers may take surgical intervention to be healed	0.598	0.000	**
46	I know Bed ulcers can be treated at home	0.410	0.024	*
47	I think that ulcers take long time to be fully recovered from.	0.453	0.012	*

***** Correlation coefficient is significant at the α = 0.05, (The critical r value at significant level 0.05 and df "28" equal 0.361)

****** Correlation coefficient is significant at the = 0.01, (The critical r-value at significant level 0.05 and df "28" equal 0.463).

4.8 Reliability of the instrument:

The reliability of an instrument is the degree of consistency which measures the attribute; it is supposed to be measured. The less variation an instrument produces in repeated measurements of an attribute, the higher its reliability. Reliability can be equated with the stability, consistency, or dependability of a measuring tool. The test is repeated to the same sample of people on two occasions and then compares the scores obtained by computing a reliability coefficient (Polit & Hunger, 1985).

It is difficult to return the sample of the questionnaire-that is used to measure the questionnaire validity to the same respondents due to the different work conditions to this sample. Therefore, two tests can be applied to the sample in order to measure the consistency of the questionnaire. The first test is the Half Split Method and the second is Cronbach's Coefficient Alpha.

4.8.1 Half Split Method

This method depends on finding Pearson correlation coefficient between the means of odd questions and even questions of each field of the questionnaire. Then, correcting the Pearson correlation coefficients can be done by using Spearman Brown correlation coefficient of correction. The corrected correlation coefficient (consistency coefficient) is computed according to the following equation:

Consistency coefficient = $2r/(r+1)$, where r is the Pearson correlation coefficient. The normal range of corrected correlation coefficient $(2r/ r+1)$ is between 0.0 and + 1.0 As shown in Table No.(4) the correlation coefficients values is equal 0.7942 and the significant (α) is less than 0.05 so the correlation coefficients is significance at α = 0.05. It can be said that according to the Half Split method, the dispute causes group are reliable.

Table (5)

Split-Half Coefficient method

section	No. of Items	Person-correlation	Spearman-Brown Coefficient	Sig. (2-(Tailed
An assessment of the significance of family training on prevention and management of bed sores for bed ridden patients	47	0.6587	0.7942	0.000

Correlation coefficient is significant at the $\alpha = 0.05$, (The critical r value at significant level 0.05 and df "28" equal 0.361).

Correlation coefficient is significant at the $\alpha = 0.01$, (The critical r value at significant level 0.05 and df "28" equal 0.463)

4.8.2 Cronbach's Coefficient Alpha

This method is used to measure the reliability of the questionnaire between each field and the mean of the whole fields of the questionnaire. The normal range of Cronbach's coefficient alpha value between 0.0 and + 1.0, and the higher values reflects a higher degree of internal consistency. As shown in Table 3.2, the Cronbach's coefficient alpha was calculated for the first field of the causes of claims, the second field of common procedures and the third field of the Particular claims. The value of Cronbach's coefficient alpha shown in Table No. (6) equals 0.8267 and is considered high; the result ensures the reliability of the questionnaire.

Table (6)

Cronbach's Coefficient method

section	No. of Items	Cronbach's coefficient alpha
An assessment of the significance of family training on prevention and management of bed sores for bed ridden patients	47	0.8267

Thereby, it can be said that the researcher proved that the questionnaire was valid, reliable, and ready for distribution for the population sample.

4.9 Pilot study:

The data collection package (the demographic information sheet and the other parts of questionnaire) was pilot tested by 20 subjects from the convenient group (caregivers). All of those pilot participants were excluded from the study. The goals for this pilot testing were to assess the adequacy of the data collection plan, to know whether respondents understand the questions in the same way, to identify any parts of the instrument that the subjects find objectionable or culturally incongruent, and to determine needs for further training of the data collection staff. Thus, revisions and refinements have been done to minimize the problems which may be encountered during the data collection. The entire completed pilot questionnaire was used to perform the statistical analysis of the pilot study (20 questionnaires) and was seen by the study leader Dr Ashraf EL-Jedi.

4.10 Statistical analysis:

The researcher used the same questionnaire sheet used in pilot study after all modification amendment. The researcher completed 80 questionnaires out of 80 (100%) in which the participants met the inclusion criteria. The response rate was 100%. The researcher used 80 questionnaires to perform the statistical analysis. The questionnaires were given code numbers (01-80). The data was entered to the computer and the data analysis was performed by using (SPSS).

Statistical methods are as follows:

1- Frequencies and Percentile
2- Alpha- Cronbach Test for measuring reliability of the items of the questionnaires
3- Pearson correlation coefficients for measuring validity of the items of the questionnaires
4- spearman –Brown Coefficient for measuring reliability .
5- one sample t test
6- paired samples t test

Chapter (5)

Results of the study

5.1 Introduction

5.2 Socio-demographic characteristics of the study sample

5.3 Scale used in the study

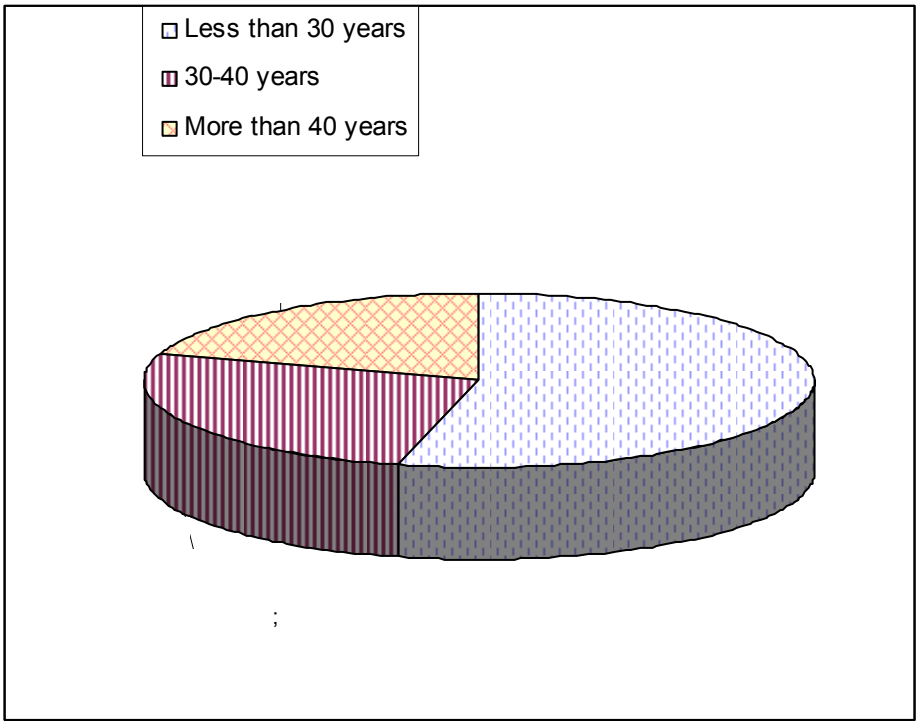
5.1 Introduction

The researcher used the SPSS to perform statistical analysis. Descriptive statistic such as percentages, mean, standard deviation, frequencies, and statistical test as T test were used to analyze the data and answer the research questions.

5.2 Sociodemographic characteristics of study sample:

5.2.1 Age:

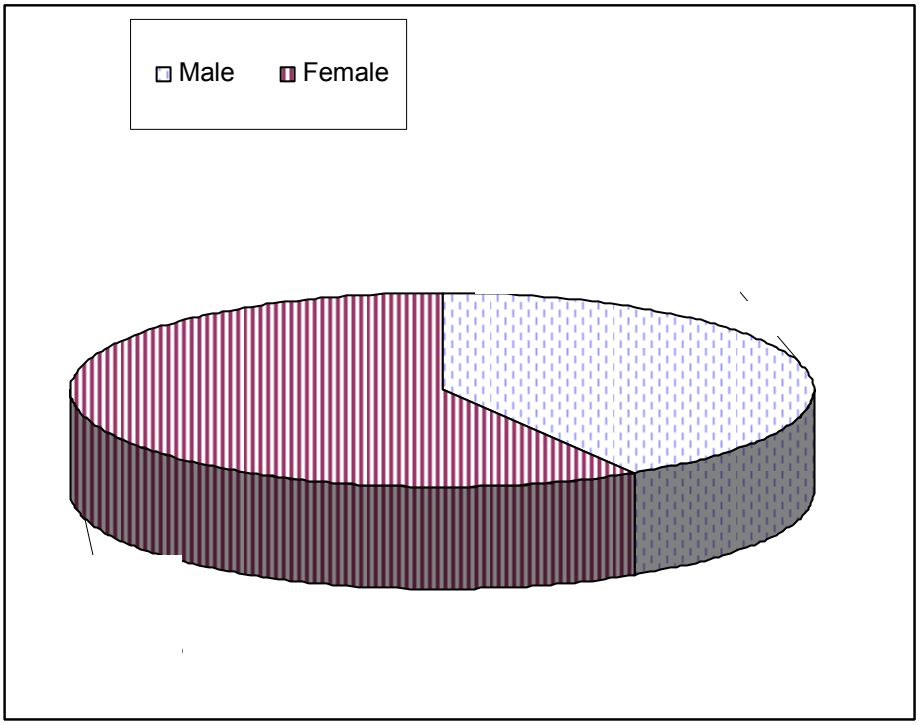
Figure (7) Age distribution of participants in years



As shown in figure (7) 53.8% from the participants are less than 30 years, 26.3% range from 30-40 years, and 20.0% more than 40 years.

5-2-2 Gender of participants :

Figure (8): Type of participants' gender in the sample



As shown in figure (8) 41.2% from the participants are males while 58.8% are females.

5-2-3 Living area of participants :

Figure (9): Distribution of participants by zone or resident

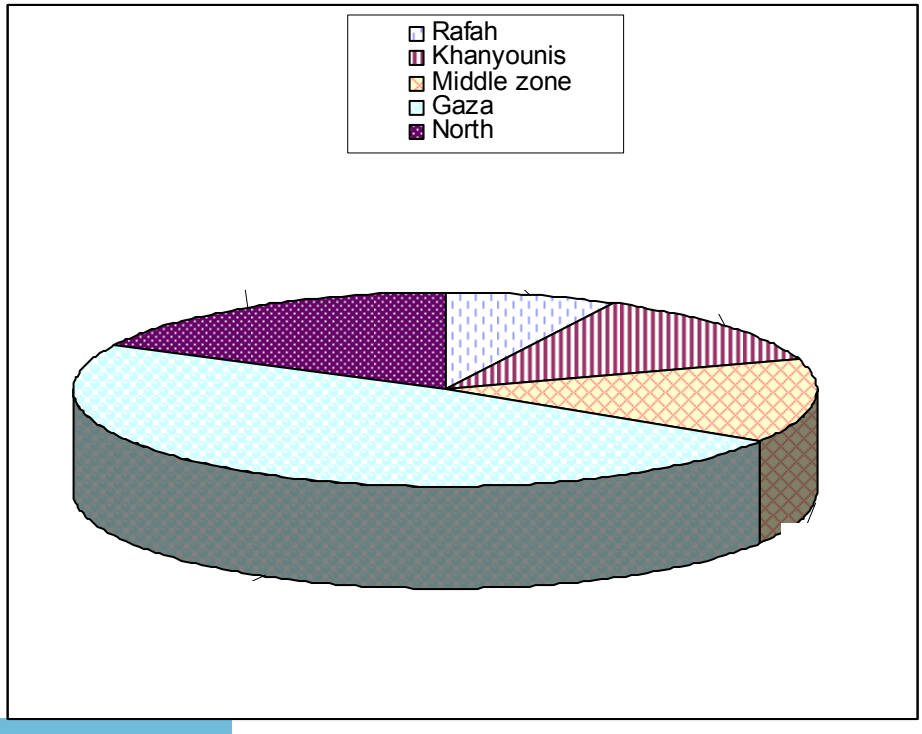
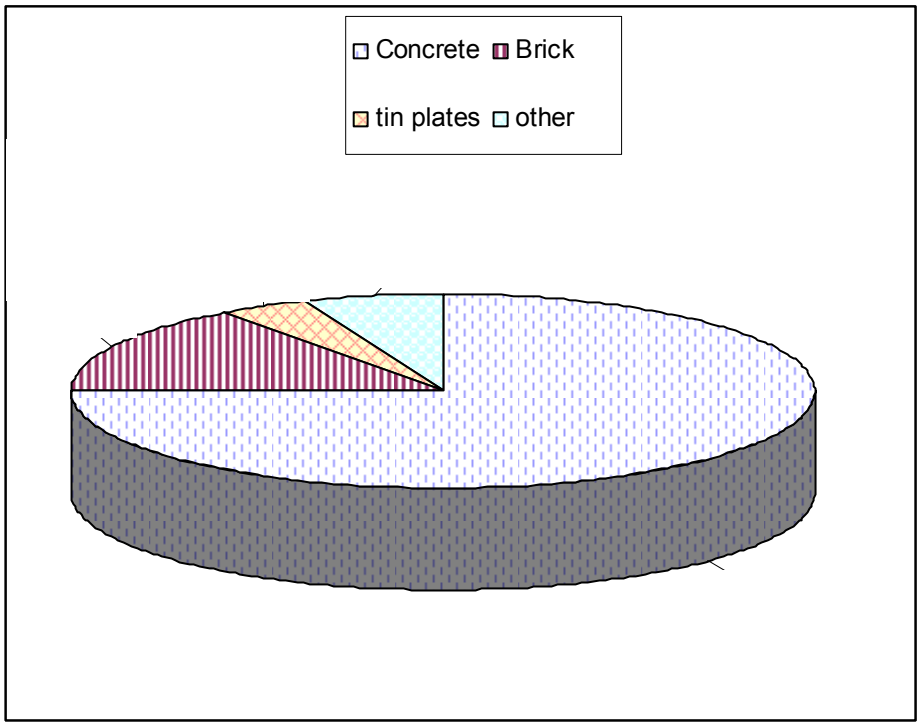


Figure (9) shows that only 7.5% from the participants are from Rafah, 12.5% from Khanyounis, 13.8% from Middle zone, 48.8% from Gaza city and 17.5% from the sample are from the North.

5.2.4 Household type:

Figure (10): Distribution of participant household type



As shown in figure (10) 57% the household type of the participants is concrete, 15.0% is brick, 3.8% is tin plates, and 6.3% from the sample the household type is other

5.2.5 Marital status of participants:

Table No.(7)
Marital status

Marital status	frequency	Percent
Married	29	.36.5
Single	45	56.5.
Widow	1	3.5
divorced	5	6.5

As shown in table (7), 36.3% are married, 56.3% are single, 1.3% are widow, and 6.3% from the participants are divorced.

5.2.6 Qualifications of participants:

Table No. (8) participants Qualifications

Qualifications	frequency	Percent
Elementary	9	11.3
Preparatory	16	20
Secondary	25	31.3
University or above	30	37.5
Total	80	100

As shown in table (8) 11.3% from the participants have completed elementary school , 20.0% have completed preparatory school , 31.3% from have completed secondary school , 37.5% have completed university or higher.

5.2.7 Average monthly income:

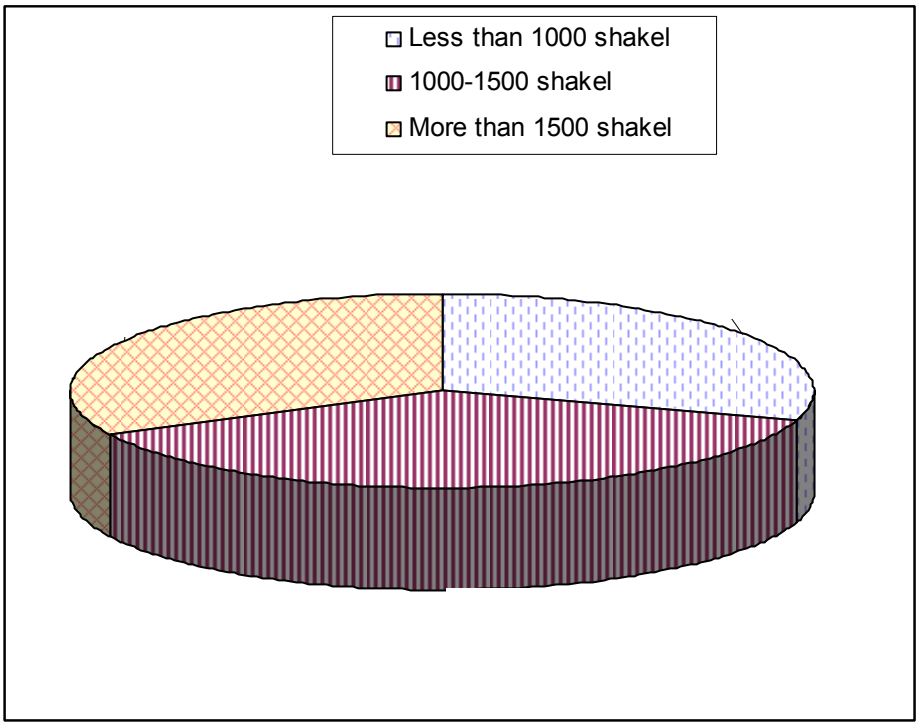


Figure (11): Distribution of participant average monthly income.

As shown in figure (11), 30.0% from the participants had average income less than 1000 NIS, 37.5% 1000-1500 NIS, and 32.5% from participants the had average income more than 1500 NIS.

5.2.8 Household members:

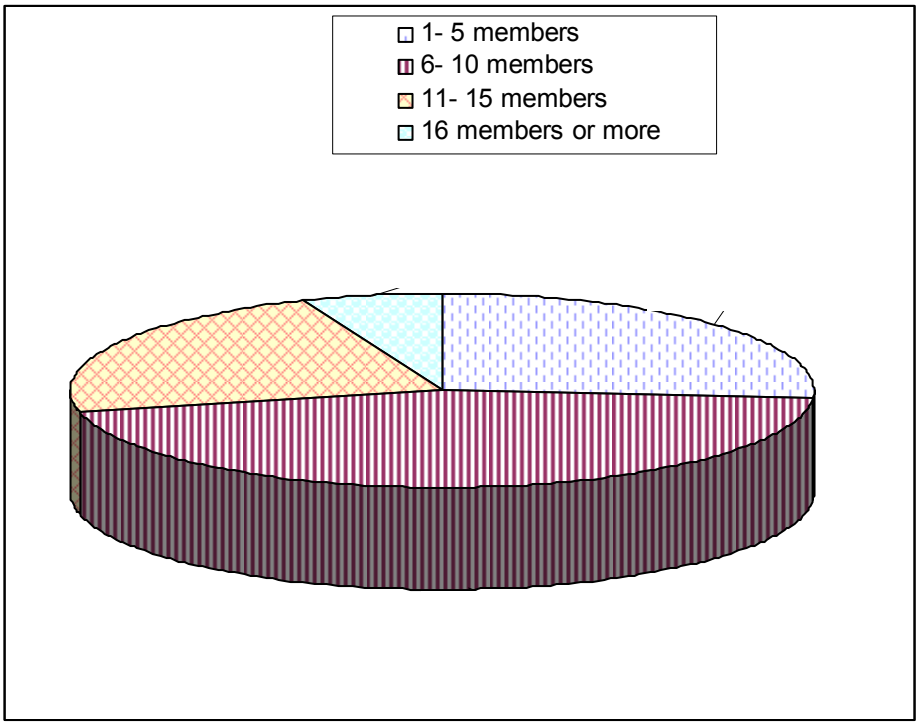


Figure (12): Distribution of participant household members

As shown in figure (12) the house hold members of 26 years 1-5 members. 45% were 6-10 members. 22.5% were 11-15 members and 6.3% from the participants the household 16 member or more.

The symptoms of pressure ulcers perceived by caregivers:

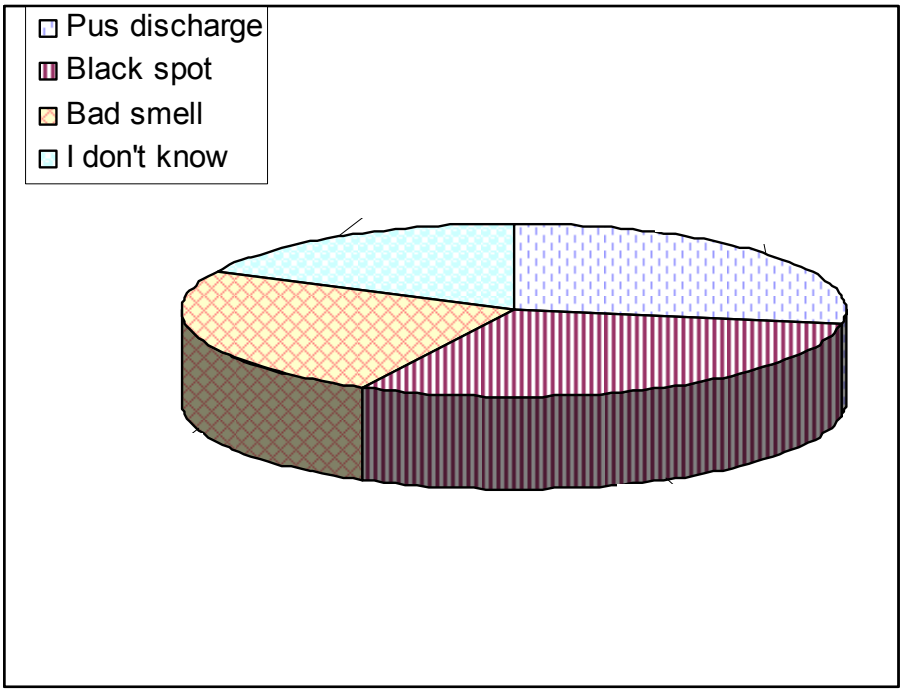


Figure (13): Symptoms of pressure ulcers perceived by caregivers.

As shown in figure (13) 27.5% from the caregivers perceived that the symptoms of bed ulcers are pus discharge while 30.0% the symptoms of bed ulcers are black spot, 25.0% the symptoms of bed ulcers are bad smell, and 17.5% symptoms of bed ulcers are not known.

5.4 Signs of pressure ulcer healing perceived by caregivers:

Table No. (9)

Signs of pressure ulcer healing perceived by caregivers

Signs of pressure sores healing	frequency	Percent
Small size of ulcer	22	27.5
Absence of discharges and pus	30	37.5
black scar	9	11.3
Growth of granulation tissues	19	23.8
Total	80	100%

As shown in table (9) 27.5% from the participants perceived the signs of pressure sores healing are small size of ulcer, 37.5% the signs of pressure sores healing are absence of

discharges and pus, 11.3% from the participants perceived the signs of pressure sores healing are black scar, 23.8% from the sample perceived the signs of pressure sores healing are growth of granulation tissues.

5.5 Duration of presssure sore with your patient:

Table No. (10)

Duration of pressure ulcer with your patient	**frequency**	**percent**
1-7 days	8	10%
8-14 days	10	11.5%
15-30 days	40	50%
1-3 months	10	11.5%
4-12 months	7	10.3%
More than 12 months	5	6.7%
Total	**80**	**100%**

As shown in table (10) 50% from participants agree that the duration of presssure sore with their patient 15-30 days, 10.3% from participants agree that the duration of presssure sore with their patient 4-12 months day,10% from participants agree that the duration of presssure sore with their patient are 1-7 days , 11.5% from participants agree that the duration of presssure sore with their patient are 8-14 days , 11.5 from participants agree that duration of ulcers 1-3 months and 6.3% from agree that the duration of presssure sore with their patient are more than one year.

5.6 The size of ulcer in relation to location of its presence:

Table No. (10)

The size of ulcer in relation to location of its presence

Area	**Number of ulcers**	**Percent**	**Size of ulcer /cm**	**Percent**
Scalp	20	8.40	46	13.18
Scapulas	10	4.20	21	6.02
Sacrum(Low back)	21	8.82	44	12.61

Hips (right and left)	46	19.33	18	5.16
Knees	21	8.82	85	24.36
Waist sides (right and left)	82	34.45	68	19.48
Heels area	23	9.66	44	12.61
Sides of heels	15	6.30	23	6.59
Total	238	100.00	349	100.00

As shown in table No (10), the percent of the size of ulcer in relation to location with cm^2 as the following:

The size of the ulcers in the scalp 3-5 cm among 13"% of the patients from the total of ulcers as reported by the caregivers.

The size of the ulcers in the scapulas 2-3 cm among 6"% of the patients from the total of ulcers as reported by the caregivers.

The size of the ulcers in the sacrum (low back)5-7cm among 8% of the patients from the total of ulcers as reported by the caregivers

The size of the ulcers in the hip (right and left) 5 cm among 5% of the patients from the total of ulcers as reported by the caregivers.

The size of the ulcers in the knees 2-3cm among 24% of the patients from the total of ulcers as reported by the caregivers.

The size of the ulcers in the in the waist sides (right and left) 5-10 cm among 19.4 % of the patients from the total of ulcers as reported by the caregivers.

The size of the ulcers in the heels area 2-5 cm among 12.6% of the patients from the total of ulcers as reported by the caregivers.

The size of the ulcers in the sides of heels heels area 2-5 cm among 6.5 % of the patients from the total of ulcers as reported by the caregivers.

5.7 location of muscle spasm :

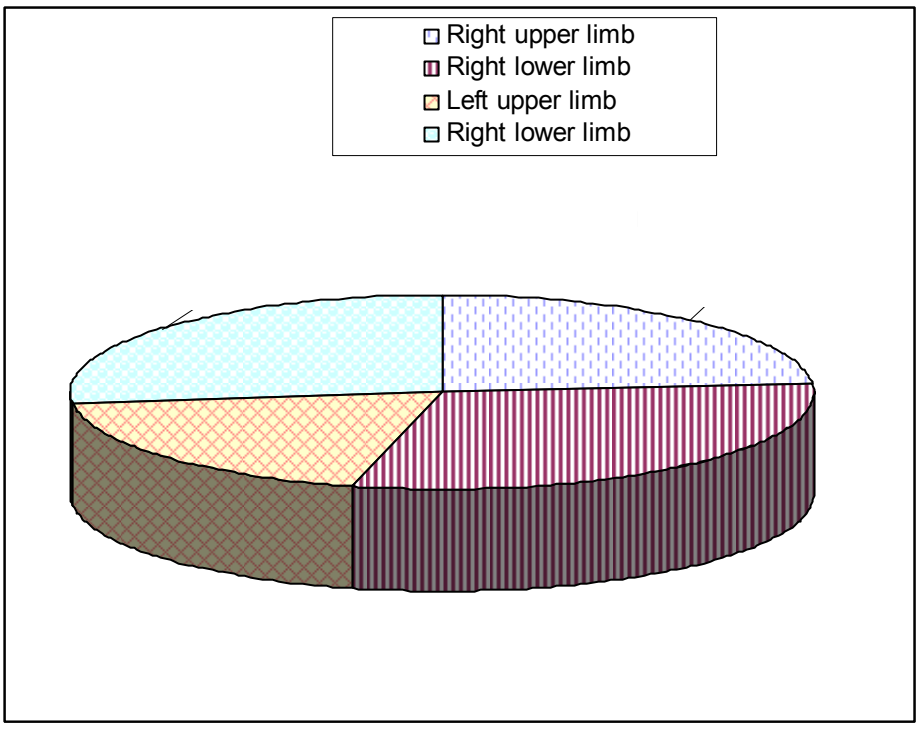


Figure (14): Location of muscle spasm

Figure No (14) shows that 23.66% from the participants agree that the location of muscle spasm at right upper limb. 30.11% from the participants agree that the location of muscle spasm at right lower limb. 19.35% from participants the agree that the location of muscle spasm at left upper limb. 26.88% from participants the agree that the location of muscle spasm at right lower limb.

Analysis for each paragraph:

The researcher used one sample **t test** to test the significance of each paragraph and the result in table No. (11) which shows the mean , standard deviation , the weight mean , t test value, the p-value.

The tables illustrate that the higher five paragraphs are as the following:

- The weight mean of the responses for a paragraph "I clean patient's body after urination and defecation" is 85.5% with first rank.

- The weight mean of the responses for a paragraph "The food contains meat, veggies, fruits and corns" is 85.5% with first rank.

- The weight mean of the responses for a paragraph "I clean patient's body everyday" is 85.3% with second rank.

-The weight mean of the responses for a paragraph "Food quality is good" is 83.0% with third rank.

- The weight mean of the responses for a paragraph "Bed ulcers require treatment" is 83.0% with third rank.

In addition, the lower five paragraphs are as the following:

- The weight mean of the responses for a paragraph "I clean patient's body every week" is 35.0% with thirty-three ranks

- The weight mean of the responses for a paragraph "The patient is capable of walking" is 37.8 % with thirty-two ranks.

- The weight mean of the responses for a paragraph "The patients are in coma" is 45% with thirty-one ranks.

- The weight mean of the responses for a paragraph "Patient is fed through nasogastic tube" is 45.8% with thirty ranks.

- The weight mean of the responses for a paragraph "The patient is capable of rolling himself from left to right" is 48.3% with twenty-nine ranks

Table No. (11)

The analysis for each paragraph (one sample T test)

paragraph No.	paragraph	mean	Standard deviation	Weight mean	T test	p-value	Sig./no sig	rank
1	Pressure ulcers are redness in the skin	3.43	1.230	68.5	3.090	0.003	**	16
2	Pressure ulcers are skin ulcerations	3.70	1.048	74.0	5.973	0.000	**	12
3	The ulcer is liquid-filled bubble	2.68	1.251	53.5	-2.324	0.023	*	25
4	The ulcer is a black scar	2.93	1.251	58.5	-0.536	0.593	***	26
5	I know the causes of ulcers	3.64	1.139	72.8	5.006	0.000	**	13
6	The patients is in coma	2.25	1.119	45.0	-5.992	0.000	**	31
7	The patient is unable of on rolling him/her self on bed	3.55	1.179	71.0	4.173	0.000	**	14
8	The patient is capable of moving his four limbs on the bed	2.49	1.102	49.8	-4.159	0.000	**	28
9	The patient is capable of rolling himself from right to left.	2.73	1.331	54.5	-1.848	0.068	***	24
10	The patient is capable of rolling himself from left to right.	2.41	1.177	48.3	-4.466	0.000	**	29
11	The patient has a sense of all of his body	3.43	1.111	68.5	3.421	0.001	**	17
12	The patient is capable of walking	1.89	0.795	37.8	-12.509	0.000	**	32
13	I know spots where ulcers occur	3.41	1.087	68.3	3.393	0.001	**	18
14	I know ulcers occur above bone prominences	3.28	1.079	65.5	2.280	0.025	*	19
15	I believe ulcers occur at heals, low back, waist sides, and scapula	4.01	0.771	80.3	11.743	0.000	**	7
16	I check ulcer spots every 2 hours	3.49	1.147	69.8	3.801	0.000	**	15
17	I check ulcer spots sometimes	3.01	1.175	60.3	0.095	0.924	***	24
18	I clean patient's body everyday	4.26	0.631	85.3	17.886	0.000	**	2
19	I clean patient's body every week	1.75	0.771	35.0	-14.495	0.000	**	33
20	I clean patient's body after urination and	4.28	0.656	85.5	17.396	0.000	**	1

paragraph No.	paragraph	mean	Standard deviation	Weight mean	T test	p-value	Sig./no sig	rank
	defecation							
21	The patient has control over urination	2.68	1.251	53.5	-2.324	0.023	*	**25**
22	The patient has control over defecation	2.66	1.282	53.3	-2.354	0.021	*	**26**
23	Diapers are changed on regular basis	4.03	0.941	80.5	9.743	0.000	**	**6**
24	The patient has a medical bed	3.54	1.242	70.8	3.870	0.000	**	**15**
25	The patient has medical mattress	3.44	1.281	68.8	3.054	0.003	**	**16**
26	The patient has air mattress in order to prevent ulcers	2.95	1.377	59.0	-0.325	0.746	***	**25**
27	I believe air mattress prevents ulcers	3.64	1.105	72.8	5.159	0.000	**	**13**
28	I have a good knowledge of rolling in bed	4.11	0.574	82.3	17.349	0.000	**	**4**
29	The patient has a wheel chair	3.25	1.207	65.0	1.853	0.068	***	**20**
30	The patient has a wheel chair mattress	2.50	1.147	50.0	-3.898	0.000	**	**27**
31	The patient sits on the wheel chair more than 30 minutes	3.04	1.354	60.8	0.248	0.805	***	**23**
32	The patient is regularly lifted to ease pressure on back while sitting on wheel chair	3.14	1.319	62.8	0.932	0.354	***	**21**
33	The patient helps on easing pressure on back while sitting on wheel chair	2.86	1.366	57.3	-0.900	0.371	***	**27**
34	The patient is fed orally	3.89	1.006	77.8	7.889	0.000	**	**10**
35	The patient experiences food swallowing difficulty	2.76	1.275	55.3	-1.666	0.100	*	**29**
36	The patient experiences liquid swallowing difficulty	2.79	2.484	55.8	-0.765	0.446	***	**28**
37	Patient is fed through naso gastic tube.	2.29	1.171	45.8	-5.441	0.000	**	**30**
38	Food quality is good	4.15	0.618	83.0	16.636	0.000	**	**3**
39	The food contains meat, veggies, fruits and corns	4.28	0.616	85.5	18.521	0.000	**	**1**

paragraph No.	paragraph	mean	Standard deviation	Weight mean	T test	p-value	Sig./no sig	rank
40	Patient receives 2 liters of water a day	3.86	0.882	77.3	8.744	0.000	**	**11**
41	Bed ulcers are critical for patient's health	4.11	0.779	82.3	12.767	0.000	**	**5**
42	Bed ulcers require treatment	4.15	0.765	83.0	13.450	0.000	**	**3**
43	Bed ulcers hinder Active daily living`	4.00	0.796	80.0	11.243	0.000	**	**8**
44	Bed ulcers need hospitalization to be treated	4.00	0.751	80.0	11.834	0.000	**	**8**
45	Bed ulcers may take surgical intervention to be healed	3.41	1.144	68.3	3.225	0.002	**	**18**
46	I know Bed ulcers can be treated at home	3.13	1.084	62.5	1.032	0.305	***	**22**
47	I think that ulcers take long time to be fully recovered from.	3.90	0.821	78.0	9.809	0.000	**	**9**
	Total	3.30	0.305	66.0	8.815	0.000	**	

***** Significant at the α = 0.05, (The critical t value at significant level 0.05 and df "79" equal 1.99)

****** Significant at the α = 0.01, (The critical t value at significant level 0.05 and df "79" equal 1.99)

******* Not significant

Hypothesis 1:

Null Hypothesis: There is no difference at significant level at $\alpha = 0.05$ between the family before and after training on prevention and management of bed sores for bed ridden patients after being discharged from El-Wafa Medical Rehabilitation Hospital.

To test the hypothesis we used **a paired samples t test** and the result shown in Table No. (23) which illustrate that there is a difference between the family before and after training on prevention and management of bed sores for bed ridden patients after being discharged from El-Wafa Medical Rehabilitation Hospital at significant

level $\alpha = 0.05$ since the value of mean of all paragraphs before training equal 3.30 and the mean of all paragraphs after training equal 3.47 and the value of the p-value equal 0.000 which is less than 0.05

Table No. (12)

The paired sample t test for differences between the family before and after training on prevention and management of bedsores for bed-ridden patients after being discharged from El-Wafa Medical Rehab Hospital

paragraph No.	paragraph	Before		after		T test	p-value	Sig./no sig
		mean	Standard deviation	mean	Standard deviation			
1	Pressure ulcers are redness in the skin	3.43	1.230	2.68	0.436	-5.654	0.000	**
2	Pressure ulcers are skin ulcerations	3.70	1.048	4.28	0.449	-4.510	0.000	**
3	The ulcer is liquid-filled bubble	2.68	1.251	3.75	1.164	-5.628	0.000	**
4	The ulcer is a black scar	2.93	1.251	3.34	1.201	-2.128	0.035	*
5	I know the causes of ulcers	3.64	1.139	4.24	0.579	-4.200	0.000	**
6	The patients is in coma	2.25	1.119	2.23	1.180	0.137	0.891	***
7	The patient is unable of on rolling him/her self on bed	3.55	1.179	4.06	0.735	-3.299	0.001	**
8	The patient is capable of moving his four limbs on the bed	2.49	1.102	2.04	0.849	2.893	0.004	**
9	The patient is capable of rolling himself from right to left.	2.73	1.331	2.29	1.105	2.262	0.025	*
10	The patient is capable of rolling himself from left to right.	2.41	1.177	2.04	0.702	2.448	0.015	*
11	The patient has a sense of all of his body	3.43	1.111	3.13	1.286	1.578	0.116	***
12	The patient is capable of walking	1.89	0.795	1.89	0.842	0.000	1.000	***
13	I know spots where ulcers occur	3.41	1.087	3.99	0.771	-3.858	0.000	**
14	I know ulcers occur	3.28	1.079	4.08	0.797	-5.319	0.000	**

paragraph No.	paragraph	Before		after		T test	p-value	Sig./no sig
		mean	Standard deviation	mean	Standard deviation			
	above bone prominences							
15	I believe ulcers occur at heals, low back, waist sides, and scapula	4.01	0.771	4.35	0.480	-3.323	0.001	**
16	I check ulcer spots every 2 hours	3.49	1.147	4.29	0.917	-4.872	0.000	**
17	I check ulcer spots sometimes	3.01	1.175	2.34	1.350	3.374	0.001	**
18	I clean patient's body everyday	4.26	0.631	4.41	0.567	-1.581	0.116	***
19	I clean patient's body every week	1.75	0.771	1.30	0.664	3.955	0.000	**
20	I clean patient's body after urination and defecation	4.28	0.656	4.24	0.706	0.290	0.772	***
21	The patient has control over urination	2.68	1.251	2.20	1.226	2.426	0.016	*
22	The patient has control over defecation	2.66	1.282	2.31	1.337	1.690	0.093	***
23	Diapers are changed on regular basis	4.03	0.941	4.41	0.544	-3.189	0.002	**
24	The patient has a medical bed	3.54	1.242	3.80	1.024	-1.459	0.147	***
25	The patient has medical mattress	3.44	1.281	3.73	1.079	-1.535	0.127	***
26	The patient has air mattress in order to prevent ulcers	2.95	1.377	2.81	1.388	0.629	0.530	***
27	I believe air mattress prevents ulcers	3.64	1.105	4.09	1.070	-2.617	0.010	**
28	I have a good knowledge of rolling in bed	4.11	0.574	4.13	0.753	-0.118	0.906	***
29	The patient has a wheel chair	3.25	1.207	3.36	1.265	-0.576	0.566	***
30	The patient has a wheel chair mattress	2.50	1.147	2.75	1.336	-1.270	0.206	***
31	The patient sits on the wheel chair more than 30 minutes	3.04	1.354	3.18	1.347	-0.652	0.515	***
32	The patient is regularly lifted to ease pressure on back while sitting on wheel chair	3.14	1.319	3.28	1.312	-0.661	0.510	***

paragraph No.	paragraph	Before		after		T test	p-value	Sig./no sig
		mean	Standard deviation	mean	Standard deviation			
33	The patient helps on easing pressure on back while sitting on wheel chair	2.86	1.366	2.81	1.254	0.241	0.810	***
34	The patient is fed orally	3.89	1.006	3.66	1.232	1.265	0.208	***
35	The patient experiences food swallowing difficulty	2.76	1.275	2.76	1.434	0.000	1.000	***
36	The patient experiences liquid swallowing difficulty	2.79	2.484	2.60	1.383	0.590	0.556	***
37	Patient is fed through naso gastric tube.	2.29	1.171	2.23	1.273	0.323	0.747	***
38	Food quality is good	4.15	0.618	4.48	0.503	-3.648	0.000	**
39	The food contains meat, veggies, fruits and corns	4.28	0.616	4.41	0.631	-1.316	0.190	***
40	Patient receives 2 liters of water a day	3.86	0.882	4.30	0.806	-3.291	0.001	**
41	Bed ulcers are critical for patient's health	4.11	0.779	4.34	0.476	-2.204	0.029	*
42	Bed ulcers require treatment	4.15	0.765	4.26	0.443	-1.139	0.257	***
43	Bed ulcers hinder Active daily living`	4.00	0.796	4.30	0.461	-2.918	0.004	**
44	Bed ulcers need hospitalization to be treated	4.00	0.751	4.29	0.599	-2.669	0.008	**
45	Bed ulcers may take surgical intervention to be healed	3.41	1.144	4.01	0.893	-3.698	0.000	**
46	I know Bed ulcers can be treated at home	3.13	1.084	3.93	0.854	-5.188	0.000	**
47	I think that ulcers take long time to be fully recovered from.	3.90	0.821	4.19	0.576	-2.565	0.011	*
	Total	3.30	0.305	3.47	0.218	-4.027	0.000	**

***** Significant at the α = 0.05, (The critical t value at significant level 0.05 and df "78" equal 1.99)

****** Significant at the α = 0.01, (The critical t value at significant level 0.05 and df "78" equal 1.99) Not significant .

CHAPTER "6"

DISCUSSION

6.1 Introduction

6.2 Discussion

6.3 Study limitation

6-4 Conclusion

6-5 Recommendations

6.1 Introduction

In this chapter the researcher will discuss the study findings, draw conclusion and illustrate limitations , also the researcher is going to present the recommendations which will focus on future suggestions in this area to plan for new services in rehabilitation of pressure ulcer management and prevention and raising awareness of patients caregivers in dealing and prevention of pressure ulcers.

6.2 Discussion:

This study aimed to examine the effectiveness of family training on prevention of pressure ulcer among bed ridden patients after discharge from EL-Wafa medical rehabilitation hospital in Gaza strip .The study results demonstrated that caregivers 53.8% from the sample there ages are less than 30 years, 26.3% from the samples their ages range from 30-40 years, and 20.0% from the sample their ages are greater than 40 years the demographic statistics of this study showed that the age of the most of the patients care givers their ages are less than 30 years, so the young age of the care givers facilitated the understanding and the easy application of the educational program which improved dealing with the patients, the management and prevention of pressure ulcers. As much of the care givers are young ages this helped in changing, turning and caring for the patients .

The majority of the caregivers (58.8%) are females. This positively affected and fostered the education programs and the result of the program as the female will be beside the bed ridden patient and does all the measures to manage and prevent the occurrence of pressure sore while 41.3% are males who went to their works and be busy to take care of bed ridden patients most of the day.

7.5% from the sample were from Rafah, 12.5% from the sample were from Khanyounis, 13.8% from the sample from Middle zone, 48.8% from the sample were from Gaza, 17.5% from the sample were from the North.

The big group of caregivers 48.8% of participants that why the program emphasized on caregivers of patients from Gaza city because that the EL-Wafa medical rehabilitation hospital which is present in Gaza so the caregivers bring their patients to it so this is the reason why the most of participants in the study were from Gaza and may be so busy

in their works to care for their patients. This indicates the patients who are at risk for development of pressure ulcers so most of the patients from Gaza.

The household type 75% is concrete, 15.0% from the participants the household type is brick, 3.8% from the participants the household type is tin plates, 6.3% from the participants the household type is others so this well prepared building facilitated the environment of the bed ridden patients as providing bed , bed mattress, covers and ventilations while others type of household has shortage of facilities which will be high risk for development of pressure ulcers. While poor building will be un suitable for good management and prevention of pressure ulcers and there is difficulty in handling patients by caregivers.

56.3% from the participants are single, 36.3% from the participants are married, 1.3% from the participants are widow, 6.3% from the are divorced. The large percent of caregivers are single specially males they have enough time to care for their patients and the reason of unmarried may be related to their desires to complete their study or may be reason the financial status as they are lost their works in Israel after- Aqsa uprising which created additional difficulties for them to cover their basic daily life expenses and the needs of their patients but they are free to care for their patients .

37.5% from the participants have completed the university or higher and 31.3% have completed secondary school ,11.3% have completed the elementary school , 20.0% have completed preparatory school ,This facilitated the efficiency of educational program administration and application as the majority of care givers are qualified to deal and prevent pressure sore and has the ability to learn other members in family who to deal with such problem. The other groups need modifications in the educational program to met their needs in training .

37.5% from the participants the average income range from 1000-1500 NIS and 30.0% from the participants the average income less than 1000 NIS, , and 32.5% from the participants the average income more than 1500 NIS.Most of participants in the study their income is below 1500 NIS this will affects their abilities to meet their family needs and the patients needs and the rest of the participants suffer from a difficult financial

hardship and depend mostly on aids and relieves delivered to them from UNRWA and other non governmental humanitarian organizations .

From the participants the household members 45% from 6-10 members and the household members 26.3% from 1-5 members, from the sample the household members 22.5% from 11-15, and 6.3% from the participants the household 16 member or more .The majority of the participants has big family so this may affected the program positively as it provide more secondary caregivers if the primary caregiver busy of absent for any reason and it reflects in general increase fertility rate in Palestinian society.

The participants awareness about pressure ulcers symptoms as 30.0% from the patient the symptoms of pressure ulcers are black spot, 27.5% from the patient the symptoms of pressure ulcers are pus discharge, 25.0% from the patient the symptoms of pressure ulcers are bad smell, and 17.5% from the patient the symptoms of pressure ulcers the participant did not know the symptoms of pressure ulcers and the researcher found that 37.5% from the sample the signs of pressure ulcers healing are absence of discharges and pus and 27.5% from the sample the signs of pressure ulcers healing are small size of ulcer, 11.3% from the sample the signs of pressure ulcers healing are black scar, 23.8% from the sample the signs of pressure sores healing are growth of granulation tissues. This affects the training program as the majority of caregivers may neglect the pressure sore if its first or second degree as it may contain no pus discharges or if the ulcer is covered by black spot so educational program is so important to be administered. This reflects the need for education and training to increase awareness and the knowledge of patients caregivers to deal and prevent the pressure sore development. Most of the participants think that the pressure sore is black spot this is bad signs that no one take care if the bed sore in the first of second stages (redness and laceration) so the bed sore deteriorated till it became full of pus discharge, necrotic tissues or black dry area so if the care givers know the early stages this will facilitated the prevention of occurrence of pressure ulcers .

This finding is consistent with Stephen and Haynes (2006) who found that the pressure ulcer can range from a very mild pink coloration of the skin, which disappears in a few hours after pressure is relieved on the area, to a very deep wound extending to and

sometimes through internal organs and into bone. This can be a mild redness of the skin and/or blistering such as a first degree burn to a deep open wound with a lot of blackened tissue in it such as a third or fourth degree burn..

The researcher found that) 50% from participants agree that the duration of presssure sore with their patient 15-30 days, 10.3% from participants agree that the duration of presssure sore with their patient 4-12 months day,10% from participants agree that the duration of presssure sore with their patient are 1-7 days , 11.5% from participants agree that the duration of presssure sore with their patient are 8-14 days , 11.5 from participants agree that duration of ulcers 1-3 months and 6.3% from agree that the duration of presssure sore with their patient are more than one year.
The result stressed on the need fpr training program as trhe majority of the participants don't take care ,change and turn the patient position as soon as he /she became bed ridden and the caregivers are not aware that the pressure ulcer can ocurr after few hours if position did not change every 2 hours.

This result is consistent with Thomas etal (1996) who found that many factors influence the duration of bedsores and healing can vary from one to six weeks, or from six weeks to three months, but often longer. Stage II to IV ulcers may take longer than six months ill group, the fight can be a long-term battle to heal. Bedsores can be an ongoing problem for the chronically**.**
In addition, the result is consistent with Leblebici et al (2007) who Reported that Patients over 65 account for 88% of all skin ulcers reported to the Patient Safety Authority, according to results of a recent study of 2,807 reports submitted by healthcare facilities to the Pennsylvania Patient Safety Reporting System. Reports submitted during the system's first full 12 months of mandatory statewide reporting (July 2004-June 2005) are consistent with studies in the clinical literature, which show the risk of skin ulcers increasing with age. The largest proportion of skin tear reports (41%) concern patients aged 75 to 84. Moreover, treating a skin ulcers is time consuming and painful for the patient. One report highlighted in the Advisory article describes a patient having to undergo stapling and stitches to treat a skin tear wound. Changing the dressing for a skin ulcer is done incorrectly, further injury to the fragile wound may occur so the duration of pressure ulcers from time of development to time of healing may take time from weeks to months.

The researcher found that the percent of the size of ulcer in relation to location with cm^2 as the following: In the head back the percent of number of gause pieces used per day or for every dressing is 16.79% , the percent of number of ulcers is 8.40%, the percent of size of ulcer/cm is 13.18%. In the Scapulas the percent of number of gause pieces used per day or for every dressing is 6.87%, the percent of number of ulcers is 4.20%, the percent of size of ulcer/cm is 6.02%. In the Low back the percent of Number of gause pieces used per day or for every dressing is 32.44%, the percent of number of ulcers is 8.82%, the percent of size of ulcer/cm is 12.61%. In the Hips (right and left) the percent of number of gause pieces used per day or for every dressing is 7.63%, the percent of number of ulcers is 19.33%, and the percent of size of ulcer/cm is 5.16%. In the Knees the percent of number of gause pieces used per day or for every dressing is 3.82%, the percent of number of ulcers is 8.82%, the percent of size of ulcer/cm is 24.36%. In the waist sides (right and left) the percent of number of gause pieces used per day or for every dressing is 8.02%, the percent of number of ulcers is 34.45%, and the percent of size of ulcer/cm is 19.48%. In the Heels area the percent of number of gause pieces used per day or for every dressing is 16.79%, the percent of number of ulcers is 9.66%, the percent of size of ulcer/cm is 12.61%. In the Sides of heels the percent of number of gause pieces used per day or for every dressing is 7.63%, the percent of number of ulcers is 6.30%, the percent of size of ulcer/cm is 6.59%.

This result is consistent with Fogerty et al (2008) who reported that 95% of pressure ulcers occur on the lower part of the body, 36% of which are on the sacrum (lower back) and 30% on the heel. 8% of all deaths in nursing homes are attributed to pressure 70% occur in people 70 years and older, The prevalence rate in nursing homes is estimated to be 17-28%. Among patients who are neurologically impaired, pressure sores occur with an annual incidence of 5-8%, with lifetime risk estimated to be 25-85%. Moreover, pressure sores are listed as the direct cause of death in 7-8% of all paraplegics.

The hip and buttock regions account for 67% of all pressure sores, with ischial tuberosity, trochanteric, and sacral locations being most common. The lower extremities account for an additional 25% of all pressure sores, with malleolar, heel, patellar, and pretibial locations being most common. The remaining 10% or so of pressure sores may occur in any location that experiences long periods of uninterrupted pressure. Nose,

chin, forehead, occipital region , chest, back, and elbow are among the more common of the infrequent sites for pressure ulceration.

The researcher result showed that 47.5% from the participants agree that there is spasticity for the patient , and 52.5% from the participants agree that there is no spasticity for the patient.23.66% from the participants agree that the location of spasticity at right upper limb, 30.11% from the participants agree that the location of spasticity at right lower limb, 19.35% from the participants agree that the location of spasticity at left upper limb, and 26.88% from the participants agree that the location of spasticity at right lower limb.

The researcher result is agree with Kenkel (1998) who said that contractures and spasticity often contribute by repeatedly exposing tissues to pressure through flexion of a joint. Contractures rigidly hold a joint in flexion, while spasticity subjects tissues to considerable repeated friction and shear forces so pressure sore can developed.

The researcher found that 85.5% of participants clean patient's body after urination and defecation. This finding is consistent with Hagisawa & Barbenel (1999) whom reported that interesting study from Japan was published in the Journal of the Royal Society of Medicine). Pressure ulcer prevalence and incidence were assessed in 275 patients, either who were admitted to a well-staffed internal medicine ward during a 12-month period or who were present on day 1 of the study. Patients scored as being at high risk on the Braden scale (score 16 or less) received active preventive care, weekly assessment and continuous monitoring. The preventive measures included turning the patient every two hours, skin inspection at least once a day, the use of an alternating pressure air cell mattress, keeping the skin clean and dry by bathing, rinsing the perineum after every bowel movement, evaluation of nutritional status and fluid/electrolyte balance, and urinary catheter and bowel management. In addition careful attention was paid to avoidance of friction when transferring from bed to chair and vice versa. If skin redness was detected that did not resolve within 30 minutes, a hydrocolloid dressing was applied to the reddened area, which was continuously monitored until, the redness disappeared. Incidence and prevalence figures found were reported to be the lowest achievable for this patient Bacterial contamination from improper skin care or urinary or

fecal incontinence, while not truly an etiological factor, is an important factor to consider in the treatment of pressure sores and can delay wound healing.

The participants who said that " Food quality is good " is 83.0%. This result agree with Langer (2002) who evaluated the effectiveness of enteral and parenteral nutrition on the prevention and treatment of pressure ulcers. Randomized controlled trials evaluating the effectiveness of enteral or parenteral nutrition on the prevention and treatment of pressure ulcers by measuring the incidence of new ulcers, ulcer healing or changes in pressure ulcer severity. There were no restrictions on patients, setting, date, publication status or language. Four studies compared a combination of nutritional supplements, consisting of a minimum of energy and protein in different dosages, for the prevention of pressure ulcers. The largest study found that nutritional supplements reduced the number of new pressure ulcers. The three smaller studies lacked power.

Four studies evaluated the effects of nutritional supplements for the treatment of existing pressure ulcers: one trial examined mixed nutritional supplements, one trial examined zinc, another the effect of proteins, and two studies compared ascorbic acid. It was not possible to draw any firm conclusions on the effect of enteral and parenteral nutrition on the prevention of pressure ulcers.

The result of the study found that The food contains meat, veggies, fruits and corns has a big role in prevention and healing of pressure ulcers by a percent of 85.5%.

This result is agree with study of Gallagher (1997) who found that treating bedsores needs a careful diet as well as good care. Dietary deficiencies may well hinder the body's ability to heal pressure ulcers as far as the latest research suggests. Malnourished nursing home patients with skin ulcers can find that ulcer healing is significantly enhanced by a high-protein diet compared with a lower protein diet. A controlled study of critically ill older patients found that increasing calorie and protein intake with dietary supplements for 15 days reduced the risk of developing a skin ulcer**.**

However, the result of the researcher is not consistent with Schols (2000) who found that there is a causal relationship between nutrition and pressure sores (PS) remains unclear. it is evident that many acute and chronically ill patients, at risk of PS or with established PS, have undesirable weight loss and malnutrition. Providing extra nutritional supplements in addition to regular food intake seems a logical way to

replenish body shortages of macro- and micronutrients as well as to supply extra nutrients for the preservation of skin tissue, strengthening of tissue resistance, and promoting tissue repair. This is relevant because malnourished patients, at risk of PS or with established PS, often have problems in fulfilling their nutritional needs by normal food intake.

The researcher result is agree with Bourdel & Marchasson(2000) who assessed the effect of nutritional supplementation on dietary intake on pressure ulcer development in critically ill older patients. The multi-center trial involved 19 wards stratified according to specialty and recruitment for critically ill older patients; 9 wards were randomly selected for nutritional intervention (nutritional intervention group), consisting of the daily distribution of two oral supplements, with each supplement contains 200 kcal, for 15 days. Pressure ulcer incidence was prospectively recorded for grades I (erythema), II (superficial broken skin), and III (subcutaneous lesion) for 15 days. Nutritional intake was monitored by using estimates in units of quarters validated by comparison with weight measurement. There were 672 subjects older than 65 years, and 295 were in the nutritional intervention group versus 377 in the control group. The patients were similar for age, sex ratio, and C-reactive protein. In comparison with the control group, the nutritional intervention group included more patients with stroke, heart failure, and dyspnea and fewer with antecedent falls, delirium, lower limb fractures, and digestive disease. The nutritional intervention group had a lower risk of pressure ulcers according to the Norton score. This intervention was associated with a decreased risk of pressure ulcer incidence.

The result of this study agrees with Delisa (1998) who found that with skilled care, the prognosis for bedsores is good. Expertise bedside treatment can heal most Stage II bedsores within a few weeks or longer. If conservative methods fail to heal a Stage III or Stage IV bedsore, reconstructive surgery often can repair the damaged area. Without proper treatment, however, pressure ulcers can be difficult to be treated once they go beyond stage 2. In the early stages when the skin is still intact, pressure ulcers usually heal by themselves once the pressure has been remove. Bedsores that are advanced and will not readily heal can require incision, drainage, skin flaps, skin grafts, and bone resection. Surgeons can also provide conservative sharp bedside debridement of wounds, but wounds that are exceedingly progressed or unresponsive, may require

plastic surgery. In later stages, also, deep craters may need skin grafting and other forms of reconstructive surgery. Debridment of necrotic tissues, dressing properly can help in heeling of other stages of ulcers. No use of povidone, hydrogen peroxide as they have been shown to be cytotoxic .Daily dressing with normal saline is very essential as it encourage the growth of granulation tissues. Semi permeable films to cover ulcers and sooth the skin. Antiseptic ointments, alginate dressing, hydrocolloid and hydrogel systems to remove necrotic tissues, agents to promote healing .Antibiotics necessary to treat deep ulcer and bone infections. when ulcer become full of granulation tissues and free from infection surgical repair as direct closure, skin grafting, skin flaps and musculocutaneous flaps can be used to fast the heeling process

Goode and Thomas (1997) who mentioned that local care of pressure ulcers include wound cleaning, depridment, wound cleaning and dressing should remove loose debris and exudates but should not damage viable tissue

Anderson et al (2006) who mentioned that wound debridement is an essential part of effective wound care. There are many methods of debriding wounds and it is important that patients are involved in the decision so that they are able to give informed consent.

Romanelli (2006) who reported that activated polyacrylate dressings facilitate wound debridement by retaining moisture while attracting and retaining proteins and bacteria.

Parnel et al (2005) mentioned that considerable progress has been made in the prevention and treatment of pressure ulcers but they remain a significant healthcare problem, particularly among the elderly. Treatment may include the use of wound dressings such as hydrogels as well as debridement products that contain relatively high concentrations of various enzymes. Unlike enzymes found in debridement products, low concentrations of endopeptidase enzymes can cleave to denatured proteins. Many endopeptidases have been reported to enhance the healing process.

The researcher found that if the patients is comatose as the study result showed the bed ridden patients who are in coma percent is 45 % increase the risk of developing pressure ulcer as the patient is unconscious and unable to change his /her position so the pt is at high risk to develop pressure ulcer.

This result is consistent with Landi et al (2004) who reported that patients who suffer brain stroke are at high risk of functional decline after the post acute rehabilitation period in 22 Italian home health agencies from 2002 to 2004 .Functional declines include cognitive impairment , pressure ulcers and hearing impairment so the patients are at high risk for development of pressure ulcers .Impaired mobility is an important contributing factor. Patients who are neurologically impaired, heavily sedated, restrained, or demented are incapable of assuming the responsibility of altering their position to relieve pressure. This paralysis leads to muscle and soft tissue atrophy and pressure sore formation , decreasing the bulk over which these bony prominences are supported.

The researcher found that the percent of patients who received feeding through naso gastric tube is 45.8%. So the patient may not receive enough quality and quantity amount of nutrients so under nourishment put the bed ridden patient at high risk of pressure ulcer due to no tissue repair occurs.

The researcher result is consistent with Stratton (2005) who studied the impact of enteral nutritional support on pressure ulcer incidence and healing and a range of other clinically relevant outcome measures in this group. Fifteen studies (including eight randomized controlled trials (RCTs) of oral nutritional supplements (ONS) or enteral tube feeding (ETF), Outcomes including pressure ulcer incidence, pressure ulcer healing, quality of life, complications, mortality and dietary intake were recorded, with the aim of comparing nutritional support versus routine care (usual diet and pressure ulcer care) and nutritional formulas of different composition. Of these 15 studies, 5 RCTs comparing ONS (4 RCTs) and ETF (1 RCT) with routine care. This systematic review shows enteral nutritional support; particularly high protein can significantly reduce the risk of developing pressure ulcers (by 25%).

The researcher found that the knowledge of caregivers about ways to prevent pressure ulcers 30% of the participants answered by changing the position of the patients from side to side every 2hrs , 25% answered by changing position from time to time , while 35% answered by keeping skin clean and by changing the position during the day hours while the other 10% replied no answers. So by this result the researcher believed that the majority of the participants did not know the correct ways of preventing pressure

ulcers as keeping pt skin clean and dry, changing position every 2hrs on supine, side to side position.

The result is consistent with Clay (2000) who recommended that frequent turning every 2 hrs and the head of the bed should not be elevated greater than 30 degrees and the body should be placed in a 30-degree lateral incline position on either side. Special cushioning devices and pressure-reducing mattresses should be used and are beneficial in minimizing pressure, friction, shearing, and moisture. Mechanical injury to the skin from shearing forces and friction during repositioning and transferring maneuvers should be prevented by having the appropriate equipment and staff available. Lift sheets, transfer boarders, over-bed trapezes, and personal support devices with proper body mechanics should be used to facilitate these maneuvers when indicated to prevent staff injuries. Along with proper skin care, adequate nutritional intake must be assessed and managed, either by enteral or parenteral administration. When a patient is unable to consume enough nutrients orally, adequate nutrition must be obtained through tube feedings or hyper-alimentation. These interventions become increasingly challenging for the health care providers in the elderly and in patients with complex disease processes; especially with limited staffing.

The researcher found that 40% of the participants do not know the proper way to do dressing on pressure ulcer and do not know the items and the procedure, 20% of participants know the way of dressing but need some direction, 30% know every thing about dressing properly, 10% of the sample did not answer the question. After the training program all the participant became well trained and applied the dressing perfectly.

6.3 Limitation of the study

There are some limitations in the study regarding the following:

1) Lack of accurate documentation of incidence and prevalence of individual who have pressure ulcers in Gaza strip .
2) Not all patients with pressure sore are admitted to EL-Wafa medical rehabilitation hospital but may go homes after being discharged from other hospitals.

3) Complex political situation and lack of safety especially in borderline areas in Khanyounis and Rafa.
4) High cost of study in relation to limited income of the researcher.

6.4 Conclusion:

After conclusion from this study the researcher found that the caregivers of bedridden patients seem to have inadequate knowledge regarding pressure ulcers.

Most of the caregivers are not satisfied with EL-Wafa medical rehabilitation hospital and specialized surgeries regarding training of caregivers about dealing and prevention of pressure ulcers.

on the training program can be applied easily in the EL-Wafa medical rehabilitation hospital and other medical organizations to help the caregivers of bed-ridden patients deal, care and prevent pressure ulcers.

6.5 Recommendations:

1. There is a need to apply this training program in rehabilitation hospitals and in other governmental hospital before the patients came to rehabilitation hospitals.
2. There is a need for follow up of bed-ridden patients' families after discharge from hospitals by out reach programs or community base rehabilitation.
3. Psychological support for caregivers of bed-ridden patients by religious awareness that caring for patients from our religion and Allah ordered us to do so.
4. There is a need for social, economic support of caregivers to encourage them to continuo there care.
5. More researches with special needs like teachers , students ,employees and other clients stay in wheel chair for long time.

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Appendix A

بسم الله الرحمن الرحيم

الجامعة الإسلامية – غزة
The Islamic University - Gaza
الشؤون الأكاديمية – وحدة الجودة
Academic Affairs–Quality Unit

الرقم..... الثلثاء، 06 رمضان، 1428
Date 2007/09/18 التاريخ.....

الأخ الأستاذ/ تيسير البلتاجي حفظه الله

مدير عام جمعية الوفاء الخيرية

السلام عليكم ورحمة الله وبركاته،،،

الموضوع: تسهيل مهمة طالب ماجستير

يهديكم المجلس الأكاديمي لبرنامج ماجستير الصحة النفسية والمجتمعية بالجامعة الإسلامية أطيب التحيات، ونرجو من سيادتكم التكرم بتسهيل مهمة الطالبة/ **تمام الدحارجة**، والتي تحمل رقم جامعي 2004/5733، المسجلة في برنامج الماجستير بكلية التربية تخصص صحة نفسية ومجتمعية/ علوم التأهيل، وذلك بهدف الحصول على إحصائيات لغاية البحث العلمي.

وتفضلوا بقبول فائق التقدير والاحترام

رئيس المجلس الأكاديمي للبرنامج

د. عليان عبد الله الحولي

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Academic Affairs-Quality Unit

الثلاثاء، 06 رمضان، 1428
Date 2007/09/18

الأخ الأستاذ/ تيسير البلتاجي حفظه الله
مدير عام جمعية الوفاء الخيرية

السلام عليكم ورحمة الله وبركاته،،،

الموضوع: تسهيل مهمة طالب ماجستير

يهديكم المجلس الأكاديمي لبرنامج ماجستير الصحة النفسية والمجتمعية بالجامعة الإسلامية أطيب التحيات، ونرجو من سيادتكم التكرم بتسهيل مهمة الطالبة/ **تمام الدحارجة**، والتي تحمل رقم جامعي 2004/5733، المسجلة في برنامج الماجستير بكلية التربية تخصص صحة نفسية ومجتمعية/ علوم التأهيل، وذلك بهدف الحصول على إحصائيات لغاية البحث العلمي.

وتفضلوا بقبول فائق التقدير والاحترام

رئيس المجلس الأكاديمي للبرنامج

د. عليان عبد الله الحولي

ملحق رقم (3)

قائمة بأسماء المحكمين للأداة التي أعدت للبحث

الاسم	التخصص	الجامعة / المؤسسة
د.خميس الاسي	رئيس فريق التأهيل	م/ الوفاء للتأهيل الطبي
د. يوسف الجيش	عميد كلية التمريض/سابقا	الجامعة الإسلامية
أ/موسى أبو مصطفى	رئيس قسم العلاج الوظيفي	م/ الوفاء للتأهيل الطبي
أ /علي أبو ريالة	رئيس قسم التمريض	م/ الوفاء للتأهيل الطبي
د. اشرف الجدي	عميد كلية التمريض	الجامعة الإسلامية
د. نبيل دخان	كلية التربية	الجامعة الإسلامية

ملحق رقم (4)

رسالة للمحكمين بتحكيم أداة الدراسة

.

السيد الفاضل /---------- حفظه الله.

تتقدم الباحثة تمام الدحارجة بدراسة بعنوان /

أهمية تدريب العائلة في الوقاية و التعامل مع تقرحات الجلد عند المرضى طريحي الفـراش بعد خروجهم من مستشفى الوفاء للتأهيل الطبي

و الذي بدوره قد كشف عن بعض الصعوبات التي يواجهها مقدمي الرعاية للمعاق و التي تؤثر على كيفية التعامل معه بعد الخروج من المستشفى.

الاستبانة الخاصة بالدراسة تقيس مدى معرفة مقدمي الرعاية للـشخص المعـاق بالمعلومـات المتعلقة بتقرحات الفراش وكيفية التعامل و الوقاية منها.

هذه الدراسة تجريها الباحثة بإشراف الدكتور / اشرف الجدي و الدكتور نبيـل دخـان و تـأتى لاستكمال متطلبات التخرج لنيل درجـة الماجـستير فـي علـوم التأهيـل (صـحة نفـسية مجتمعية)المنعقد في كلية التربية – الجامعة الإسلامية .

وعليه فان الباحثة ترجو من سيادتكم التكرم بتحكيم الاستبانة المرفقة و كذلك تعديل و حذف و إضافة ما يلزم.

و تفضلوا بقبول فائق الاحترام و التقدير

التوقيع/ التاريخ / /2007

Appendix B

(1) ملحق رقم

Questionnaire Covering Letter and questionnaire in Arabic

بسم الله الرحمن الرحيم

رقم الاستمارة:- - - - -

أخي /أختي المشارك/ة :-

تقوم الباحثة بعمل دراسة عن أهمية تدريب العائلة في الوقاية و التعامل مع تقرحـات الجلـد عند المرضى طريحي الفراش بعد خروجهم من مستشفى الوفاء للتأهيل الطبي.هـذه الدراسـة تأتى لاستكمال متطلبات التخرج لنيل درجة الماجستير في علوم التأهيل من الجامعة الإسلامية. تشكر لكم الباحثة مشاركتكم في الدراسة وإعطائنا بعضاً من وقتكم الثمين للإجابة علـى أسـئلة الاستبيان.مشاركتكم في الدراسة مهمة وضرورية لإنجازها بنجاح .

تستغرق الإجابة على جميع الأسئلة في الاستبيان من 20- 25 دقيقة.

الأسئلة لا تشمل معلومات عن هوية المشارك /ة مثل الاسم والأجوبة ستكون سرية وتستخدم لغرض البحث العلمي فقط.

أرجو من سيادتكم التفضل بالإجابة على أسئلة الاستبيان، علما بأنكم تحتفظون بحقكم في رفـض الإجابة على أي سؤال أو جميع الأسئلة أو الانسحاب من الدراسة في أي وقت .

شكراً لكم على المشاركة

للاستفسار اتصل/ي على:-

هاتف العمل / 28044141

جوال/ 0599860876

الباحثة / تمام الدحارجة ماجستير علوم التأهيل

التاريخ / /2007

الرقم ----------.

البيانات الشخصية:-

من فضلك أجب على جميع الأسئلة التالية :-

ضع إشارة (√)مقابل كل خانة حسب ما يناسبك :-

1-العمر ـ ـ ـ ـ سنة

2-الجنس ☐ ذكر ☐ أنثى

3- العنوان: ☐محافظة رفح ☐محافظة خان يونس ☐المحافظة الوسطى

☐ محافظة غزة ☐ محافظة الشمال .

4- نوع البيت:

باطون ☐ قرميد ☐ زينكو ☐ أخرى.

5- الحالة الاجتماعية:

☐ أعزب ☐ متزوج/ة

☐مطلق/ة ☐ أرمل/ة

6- المؤهل العلمي:----------

7- المهنة----------

8-متوسط الدخل الشهري (من كل مصادر الدخل)---------

9- عدد أفراد الأسرة التي تعيش معها ----------

من فضلك أجب عن الأسئلة الآتي

م.	العبـــارة	أوافق	أوافق بشدة	أرفض	أرفض بشدة	متردد
.1	التقرحات الجادية عبارة عن احمرار في الجلد.					
.2	التقرحات الجادية عبارة عن كحت في الجلد.					
.3	القرحة عبارة عن فقاعة بها سائل.					
.4	القرحة عبارة عن ندبة سوداء .					
.5	اعرف أسباب التقرحات الجادية.					
.6	المريض في غيبوبة.					
.7	المريض لا يقلب نفسه في السرير.					
.8	المريض يستطيع تحريك جميع أطرافه في السرير.					
.9	يتقلب المريض في السرير من اليمين للشمال.					
.10	يتقلب المريض في السرير من الشمال لليمين.					
.11	لدى المريض إحساس في جميع أجزاء جسمه.					
.12	يستطيع المريض المشي.					
.13	اعرف مكان حدوث القرحة الجادية.					
.14	اعرف أن القرحة الجادية تحدث فوق البروزات العظمية.					
.15	اعتقد أن القرحة الجادية تحدث في منطقة الكعـب وأسفل الظهر وجانبي الحوض و لوحات الكتف.					

م.	العبـــارة	أوافق	أوافق بشدة	أرفض	أرفض بشدة	متردد
.16	أقوم بتفقد أماكن التقرحات كل ساعتين.					
.17	أتفقد أماكن التقرحات أحيانا.					
.18	أنظف جسم المريض يوميا.					
.19	أنظف جسم المريض كل أسبوع.					
.20	أنظف جسم المريض بعد عملية التبول و التبرز.					
.21	يتحكم المريض في عملية التبول.					
.22	يتحكم المريض في عملية التبرز.					
.23	يتم تغيير الحفاضات بانتظام.					
.24	لدى المريض سرير طبي.					
.25	لدى المريض فرشة سرير طبية.					
.26	لدى المريض فرشة هوائية لمنع حدوث التقرحات.					
.27	اعتقد أن فرشة الهواء تمنع حدوث التقرحات الجادية.					
.28	لدي معرفة بفوائد التقليب في السرير.					
.29	لدي المريض كرسي متحرك .					
.30	لدى المريض فرشة كرسي متحرك.					
.31	يجلس المريض في الكرسي المتحرك أكثر من 30 دقيقة.					
.32	يتم رفع المريض لتخفيف الضغط عـن المـؤخرة أثناء الجلوس في الكرسي المتحرك بانتظام.					

م.	العبـــارة	أوافق	أوافق بشدة	أرفض	أرفض بشدة	متردد
.33	يساعد المريض في تخفيف الضغط عن المؤخرة أثنـاء الجلوس في الكرسي المتحرك.					

م.	العبـــارة	أوافق	أوافق بشدة	أرفض	أرفض بشدة	متردد
.34	يتغذى المريض عن طريق الفم.					
.35	لدى المريض صعوبة في بلع الطعام.					
.36	يستطيع المريض بلع السوائل بصعوبة.					
.37	يتغذى المريض عن طريق الأنبوب النفي المعدي.					
.38	نوعية الطعام جيدة.					
.39	يحتوي الطعام على لحوم-خضار-نشويات و فواكه					
.40	يتم إعطاء المريض لتران من السوائل يوميا.					
.41	تقرحات الفراش خطيرة على صحة المريض.					
.42	تقرحات الفراش تحتاج إلى علاج.					
.43	تعيق التقرحات أنشطة الحياة اليومية.					
.44	قرحة الفراش يجب علاجها في المستشفى.					
.45	قد تحتاج التقرحات علاج جراحي.					
.46	اعرف أن قرحة الفراش يمكن علاجها في البيت.					
.47	اعتقد أن التقرحات تحتاج وقت كبير لكـي تـشفى تماما.					

48- علامات التهاب قرح الفراش

☐ خروج صديد ☐ بقعة سوداء ☐ رائحة كريهة ☐ لا اعرف

49- علامات شفاء قرح الفراش.

☐ صغر حجم القرحة ☐ خلو الجرح من الافرازات ☐ وجود الصديد ☐ تكون ندبة سوداء

نمو انسجة جديدة في اطراف و مركز القرحة .

50- مدة حدوث التقرحات عند مريضكم ضع علامة بجانب الكلمة :

1-7 ايام	
8-14يوم	
15-30 يوم	
1-3شهر	
3-12 شهر	
اكثر من 12 شهر	

51- حجم القرحة بالنسبة لمنطقة حدوثها بالسنتمتر المربع.

المنطقة	عدد القرح	عدد قطع الشاش المستخدم على القرحةيوميا او عند كل غيار	حجم القرحة بالسم
مؤخرة الرأس			
لوحات الكتف			
منطقة العجز (أسفل الظهر)			
منطقة المؤخرة (يمين+شمال)			
منطقة الركبتين			
منطقة جانبي الحوض (يمين +شمال)			
منطقة الكعبين			
منطقة بروز جانب الكعبين			

هل يوجد لدى المريض شد عضلي

☐ نعم ☐ لا

إذا كان الجواب عن السؤال السابق بنعم - يمكن اختيار أكثر من واحدة.

لا / نعم	المنطقة التي بها شد عضلي
	الطرف العلوي الأيمن
	الطرف السفلي الأيمن
	الطرف العلوي الأيسر
	الطرف السفلي الأيسر

المرض الأساسي عند المريض:----------

توجد عند المريض أمراض أخرى :-

1-من وجهة نظرك كيف يمكنك منع حدوث تقرحات الفراش؟

2- من وجهة نظرك كيف يمكنك عمل غيار على قرحة الفراش في حال حدوثها؟

3-من وجهة نظرك ما الذي تود تعلمه بخصوص منع حدوث التفرجات؟

تمت الأسئلة بحمد الله.

مع أطيب أمنياتي

الباحثة/ تمام لدحارجة

ملحق رقم (2)

Questionnaire Covering Letter and questionnaire in English

Document # _____

Dear participant,

Researcher is conducting an assessment of the significance of family training on prevention and management of bed sores for bed ridden patients after being discharged from El-Wafa Medical Rehab Hospital. This study is complimentary to the thesis of master degree of rehabilitation sciences at the Islamic University - Gaza.

The researcher expresses her appreciation for your valuable time and significant input towards successful accomplishment of this questionnaire.

The average period needed to answer the questionnaire is 20 – 25 minutes.

Answers will be provide under condition of anonymity and be used for the scientific research purposes only.

You still have the right to refrain, at any point of time, from answering any or all of the questions or withdrawing from the study.

Thanks for you participation

For inquiries, feel free to call:
Work phone : 2804141
Mobile : 0599 860876

Tamam El- Daharja
Researcher:
Master degree of rehabilitation science

Date: / /2007
No. _____

Personal information

Kindly answer the following questions:
Mark with (√) at the answers that correspond to you:

1. **Age**:
2. **Gender**: Male ☐ Female ☐

3. Address: Rafah ☐ Khanyounis ☐ Middle zone

Gaza ☐ North ☐

4. household type:

Concrete ☐ Brick ☐ tin plates ☐ other

5. Marital status

Married ☐ Single ☐

Widow ☐ divorced ☐

6. Qualifications: _____

7. Profession: _____

8. Average Income (from all income resources): _____

9. Household members: _____

Kindly answer the following questions:

#	Statement	Agree	Strongly agree	Reject	Strongly reject	Reluctant
1	Pressure ulcers are redness in the skin					
2	Pressure ulcers are skin ulcerations					
3	The ulcer is liquid-filled bubble					
4	The ulcer is a black scar					
5	I know the causes of ulcers					
6	The patients is in coma					
7	The patient is unable of on rolling him/her self on bed					
8	The patient is capable of moving his four limbs on the bed					
9	The patient is capable of rolling himself from right to left.					
10	The patient is capable of rolling himself from left to right.					
11	The patient has a sense of all of his body					
12	The patient is capable of walking					
13	I know spots where ulcers occur					
14	I know ulcers occur above bone prominences					

15	I believe ulcers occur at heals, low back, waist sides, and scapula					
16	I check ulcer spots every 2 hours					
17	I check ulcer spots sometimes					
18	I clean patient's body everyday					
19	I clean patient's body every week					
20	I clean patient's body after urination and defecation					
21	The patient has control over urination					
22	The patient has control over defecation					
23	Diapers are changed on regular basis					
24	The patient has a medical bed					
25	The patient has medical mattress					
26	The patient has air mattress in order to prevent ulcers					
27	I believe air mattress prevents ulcers					
28	I have a good knowledge of rolling in bed					
29	The patient has a wheel chair					
30	The patient has a wheel chair mattress					
31	The patient sits on the wheel chair more than 30 minutes					

32	The patient is regularly lifted to ease pressure on back while sitting on wheel chair					
33	The patient helps on easing pressure on back while sitting on wheel chair					
34	The patient is fed orally					
35	The patient experiences food swallowing difficulty					
36	The patient experiences liquid swallowing difficulty					
37	Patient is fed through naso gastic tube.					
38	Food quality is good					
39	The food contains meat, veggies, fruits and corns					
40	Patient receives 2 liters of water a day					
41	Bed ulcers are critical for patient's health					
42	Bed ulcers require treatment					
43	Bed ulcers hinder Active daily living`					
44	Bed ulcers need hospitalization to be treated					
45	Bed ulcers may take surgical intervention to be healed					
46	I know Bed ulcers can be treated at home					
47	I think that ulcers take long time to be fully recovered from.					

48- Symptoms of bed ulcers

Pus discharge ☐ Black spot ☐ Bad smell ☐

I don't know ☐

49- Signs of pressure sores healing:

Small size of ulcer ☐ Absence of discharges and pus ☐ black scar ☐

Growth of granulation tissues ☐

50- Duration of presssure sore with your patient, please mark in front the duration that corrisponds:

1-7 days	
8-14 days	
15-30 days	
1-3 months	
3-12 months	
More than one year	

51- The size of ulcer in relation to location of its presence

Area	**Number of gause pieces used per day or for every dressing**	**Number of ulcers**	**Size of ulcer /cm**
Head Back			
Scapulas			
Low back			
Hips (right and left)			
Knees			
Waist sides (right and left)			
Heels area			
Sides of heels			

52-Does the patient has muscle spasm

Yes ☐ No ☐

53-If the answer is YES, you can choose more than one answer:

Yes / No	Location of muscle spasm
	Right upper limb
	Right lower limb
	Left upper limb
	Right upper limb

54-Main Complaint: _____

55-Any other Complaint:

_____

56-. How do you think bed ulcers could be prevented?

57-. How do you think the bed ulcer can be dressed once it occurred?

58- What would you like to learn about bed ulcers?

Thanks and best wishes

Researcher /Tamam EL-Daharja

APPENDIX (C)

ملحق رقم (1)

برنامج تدريبي للعائلات و مقدمي الرعاية للمرضى طريحي الفراش

الفئة المستهدفة : مقدمي الرعاية للمرضى طريحي الفراش في مستشفى الوفاء للتأهيل الطبي.

مدة التدريب : 4ساعات تدريب للعائلة بمعدل ثلاث جلسات.

أهداف البرنامج:

1) أن يقوم مقدم الرعاية بتفقد أماكن البروزات العظمية في جسم المريض للتأكـد مـن عدم حدوث قرحة صباحا و مساءا.
2) أن يعرف مراحل تكون القرحة و كيفية التعامل معها في حالة حدوثها.
3) عمل غيار على القرحة بطريقة مناسبة وصحيحة.
4) أن يعرف أهمية التغذية السليمة التي تكون جيدة في الكمية و النوعية.
5) أن يقوم بتقليب المريض في السرير كل ساعتين و أن يقوم برفع المـريض كـل 10 دقائق لتخفيف في حالة أن يكون المريض جالس في الكرسي.
6) أن يقوم بعمل النظافة الشخصية للمريض كل يوم و المحافظة على جـسم المـريض نظيف و جاف.
7) أن يتعلم كيفية عمل تنظيم لعملية الإخراج(التبول و التبرز).

تقرحات الفراش:

تعتبر تقرحات الفراش من المضاعفات الشائعة و الخطيرة التي تحدث بين المرضـى طريحـي الفراش .

تعريف التقرحات:

هي عبارة عن منطقة من التلف الموضعي تحدث للجلد و الأغشية التي تحته نتيجة الـضغط المستمر خصوصا على مناطق البروزات العظمية بحيث يكون الجلد مضغوطا على الفراش أو الكرسي المتحرك حيث أن الأوعية الدموية تنغلق و مما ينتج عنه نقص في وصـول الـدم و الأكسجين لتلك المنطقة وعدم وصول الغذاء الكافي مما يؤدي لموتها.

الأسباب المباشرة لحدوث التقرحات :

- ☒ الضغط المستمر على منطقة من الجلد لمدة طويلة سواء في السرير أو عند الجلـوس على الكرسي المتحرك.
- ☒ عدم مقدرة المريض على تغيير وضعه بالتقليب من جانب لأخر.
- ☒ الاحتكاك المباشر بين جلد المريض و الفرشة مما يؤدى إلى تمزق الأوعية الدموية
- ☒ عدم تناول الغذاء الجيد الغني بالبروتينات و الفيتامينات اللازمة للجسم.
- ☒ الرطوبة الناتجة عن العرق أو عند المرضى الذين يعانون من عدم التحكم في عمليتي التبول و التبرز
- ☒ الوزن الزائد الذي يؤدي إلى زيادة الضغط على الجلد المغطي للبروزات العظمية
- ☒ عدم الإحساس عند المرضى الذين لديهم مشكلات فـي الأعـصاب حيـث لا يـشعر المريض بالألم آو عدم الراحة فيغير وضعه .
- ☒ مشاكل الأوعية الدموية مثل تصلب الشرايين و مرضى السكري مما ينشا عنه عـدم وصول الدم الكافي لمناطق الجسم .

كيف يستطيع الأشخاص العاديين تجنب تقرحات الجلد:

عندما يستلقي الشخص الطبيعي على ظهره أو إحدى جانبية لمدة طويلـة فانـه يـشعر بعـدم الارتياح و الألم مما يدفعه أن يغير من وضعية جسمه و بذلك يقي نفسه من التقرحات و ذلك لا يقدر أن يقوم به الشخص المعاق.

الأشخاص الأكثر عرضة لحدوث التقرحات:

المرض الذين لديهم ضعف أو شلل في الأطراف لا يستطيعوا التحرك و تغيير وضع أجسامهم مثل مرضى الجلطات الدماغية و النخاع الشوكي و وتلف الدماغ و كذلك ضمور العضلات.

الأشخاص الذين لديهم فقد في الإحساس في أجزاء من أجسامهم مثل مصابي النخاع الشوكي.

مرضى الكسور في الأطراف السفلية أو العلوية نتيجة عدم وجود قطن كـافي بـين الجلـد و الجبيرة .

أماكن حدوث التقرحات:

تحدث التقرحات في الجزء السفلي من الجسم أكثر من الجزء العلوي لكثرة البروزات العظمية في الجزء السفلي.

تعتمد علي الوضع الذي يكون عليه المريض:

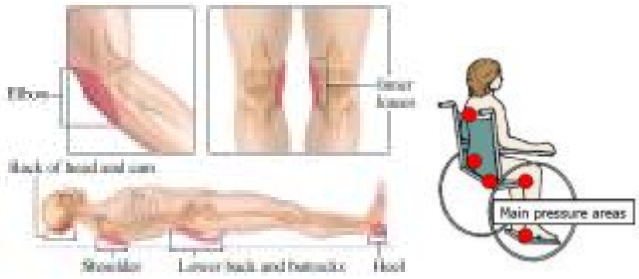
وضع الاستلقاء على الظهر :مؤخرة الرأس و لوحتي الكتف و الكوعين و منطقة العجز و الاليتين و الكعبين.

وضع الاستلقاء على الجانبين:الكتف و الأضلاع و جانبي الحوض و الكعبـين و جـانبي القدمين.

وضع الاستلقاء على البطن: منطقة الذقن و الخدين و

منطقة الحوض و الركبتين و أصابع القدمين.

وضع الجلوس على الكرسي المتحرك : منطقة الكوعين و منطقة العجز الاليتين.



أعراض حدوث التقرحات :

- حدوث احمرار بالجلد لا يزول.
- ورم موضعي ودفء الجلد مع الم و حكة .
- انتفاخ في الجلد مثل الفقاعة وبها سائل شفاف.
- تهتك الجلد و بروز الأغشية التي تحت سطح الجلد وخروج الإفرازات المتقيحة.

مراحل حدوث التقرحات:

المرحلة الأولى:

منطقة موضعية من الجلد الذي يغطي البروزات العظمية تكون حمـراء اللـون مثـل حـرق التعرض للشمس و لكن اللون لا يزول بعد رفع الضغط عنها.

كيفية العلاج:

عدم نوم المريض على مكان القرحة

تنظيف المكان بالماء و الصابون وتجفيفه بطء

الاهتمام بالتغذية الجيدة

إذا لم تشفي القرحة خلال أيام أو ساءت يجب مراجعة الطبيب

المرحلة الثانية:

تهتك في الطبقة الخارجية للجلد و قد يصاحبها حدوث فقاعة بها سائل شفاف .

كيفية العلاج:

تنظيف القرحة بواسطة محلول ملحي وتجفف جيدا .

عدم نوم المريض على الجانب الذي فيه القرحة.

المرحلة الثالثة :

القرحة تشمل الجلد و الأغشية التي تليه من الطبقة الدهنية و العضلات .

في حالة حدوث التهاب أو صديد يجب مراجعة الطبيب.

المرحلة الرابعة :

تشمل كل ما سبق بالإضافة للعظم و المفاصل والأوتار.

كيفية العلاج للمرحلة الثالثة و الرابعة:

مراجعة الطبيب لان هذه التقرحات تحتاج عناية فائقة لإزالة الأغشية الميتة و مضادات حيوية و إجراءات أخرى .

الأدوات اللازمة لعمل الغيار على القرحة:

شاش معقم – محلول ملحي – بوليدين – بلا ستر –كفات معقمة – لفافة شاش

علامات تدهور حالة القرحة:

1) زيادة حجم القرحة وخروج صديد.
2) زيادة احمرار الجلد الذي حول القرحة تغير اللون إلى اسود.
3) حدوث ارتفاع في درجة الحرارة.
4) تغير لون الإفرازات من القرحة إلى اللون الأصفر أو الأخضر (دليل وجـود التهاب).

كيفية منع حدوث التقرحات

1. تقليب المريض طريح الفراش كل ساعتين.
2. الكشف على مناطق البروزات العظميـة المعرضـة لحـدوث التقرحات مرتين يوميا.
3. عند ملاحظة أي احمرار يجب عدم نوم المريض علـى هـذا الجانب بتاتا حتى زوال الاحمرار.
4. بقاء رأس السرير في وضع منخفض أثناء النوم وعدم رفـع رأس السرير إلا عند رغبة المريض في الجلوس أو الأكـل و ذلك حتى لا ينزل جسم المريض لأسفل الـسرير ممـا يـؤثر الاحتكاك لتمزق الأوعية الدمويـة ممـا يعـرض المـريض للتقرحات.
5. عند جلوس المريض على الكرسي المتحرك توضـع فرشـة كرسي مناسبة تحت المريض لتوزيع الضغط.
6. استخدام الأدوات الواقية مثل حذاء من القماش لوقاية القـدمين

من حدوث القرح .

7. تنظيم عملية الإخراج.
8. استخدام الأدوات المساعدة التي تساعد في منع حدوث التقرحات مثل فرشة طبية للسرير .

9. المحافظة على الجسم نظيف و جاف و تغيير الحفاضات عند اللزوم.
10. أن يكون فراش المريض مرتب و عدم وجود تجاعيد في الفراش قد تعمل ضغط على جسم المريض.
11. التغذية الجيدة الغنية بالبروتينات و الفيتامينات اللازمة للجسم.

الأدوات اللازمة لعمل الغيار على القرحة:

شاش معقم – محلول ملحي – بوليدين – بلا ستر –كفات معقمة – لفافة شاش .

علامات تدهور حالة القرحة:

1) زيادة حجم القرحة وخروج صديد.
2) زيادة احمرار الجلد الذي حول القرحة تغير اللون إلى اسود.
3) حدوث ارتفاع في درجة الحرارة.
4) تغير لون الإفرازات من القرحة إلى اللون الأصفر أو الأخضر لوجود التهاب.

هل تقرحات الفراش خطيرة:

في حالة عدم العناية بتقرحات الفراش فإنها تصبح كبيرة و عميقة حيث أن هذه التقرحات تحتوى أغشية ميتة فإنها عرضة للالتهاب بحيث تصل الالتهاب للأغشية الداخلية والعظم بسهولة حيـث يصبح علاجها صعبا و يكلف مبالغ طائلة و يحتاج مدة طويلة قد تصل لشهور بل سنوات فـي بعض الحالات الصعبة قد تؤدي التقرحات للوفاة في حالة حدوث تسمم الدم نتيجـة الالتهابـات الشديدة.

كيفية الوقاية من حدوث التقرحات:

1) يجب أن يعرف المريض وأهله كل شيء عن التقرحات و كيفية تجنبها و الوقاية منها.
2) تقليب المريض طريح الفراش كل ساعتين إلى ثلاث ساعات و عند الجلوس على كرسي يرفع جسم المريض كل 10-15 دقيقة.
3) وضع شراشف ناعمة أو مخدات طرية بين ركبتي المريض في حالة النوم على الجنب.
4) الكشف على مناطق البروزات العظمية المعرضة لحدوث التقرحات مرتين يوميا.
5) عند ملاحظة أي احمرار يجب عدم نوم المريض على هذا الجانـب بتاتـا حتـى زوال الاحمرار.
6) بقاء رأس السرير في وضع منخفض أثناء النوم وعدم رفع رأس السرير إلا عند رغبة المريض في الجلوس أو الأكل و ذلك حتى لا ينزل جسم المريض لأسفل السرير ممـا يؤثر الاحتكاك لتمزق الأوعية الدموية مما يعرض المريض للتقرحات.
7) عند جلوس المريض على الكرسي المتحرك توضع فرشة كرسي مناسبة تحت المريض لتوزيع الضغط.
8) استخدام الأدوات الواقية مثل حذاء من القماش لوقاية القدمين من حدوث القرح .

9) استخدام الأدوات المساعدة التي تساعد في منع حدوث التقرحات مثل فرشة طبية للسرير و فرشة الهواء و لكن يجب الانتباه بان فرشة الهواء لاتحمي من التقرحات بل تـساعد

في تخفيفها و يجب تقليب المريض كل ساعتين .

10) استخدام فرشة خاصة للكرسي المتحرك لتخفيف الضغط عن مؤخرة المريض.

11) المحافظة على الجسم نظيف و جاف و تغيير الحفاضات عند اللزوم.

12) أن يكون فراش المريض مرتب و عدم وجود تجاعيد في الفراش قد تعمل ضغط على جسم المريض.

13) التغذية الجيدة الغنية بالبروتينات و الفيتامينات و السوائل اللازمة للجسم.

كيفية تغيير و ضع المريض:

في حالة إصابة النخاع الشوكي ينصح أن يقلب المريض بانتظام مع عدم ثني ظهره أي يقلب كوحدة واحدة بواسطة 3 أفراد واحد يقف عند كتفيه و الثاني عند وسطه و الثالث عند أطرافـه السفلية .

بعد مرور مرحلة الخطر يتم تعليم المريض كيفية تقليب نفسه.

عند جلوس المريض على كرسي يجب تعليمة طريقة رفع جسمه بالاعتماد على يديـه. و فـي حالة عدم مقدرته يجب رفع جسمه كل 10-15 دقيقة لتخفيف الضغط عن المؤخرة.

إعداد الباحثة/تمام الدحارجة