Nurses' Knowledge and Barriers to Perform Pressure Ulcer Prevention Practices

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Abstract
Background: The healthcare system continues to struggle with a serious pressure ulcer problem. Patients suffer as a result of it, and its financial cost is also getting worse. Pressure ulcers still persist and can happen in both hospital and community settings, despite recent improvements in prevention and treatment. There are only a few pressure ulcer studies in Iraq. This study seeks to investigate pressure ulcer prevention knowledge levels and knowledge sources, as well as obstacles to adopting pressure ulcer prevention recommendations among Iraqi nurses. Methods: A self-administered questionnaire was used to gather information from 225 staff nurses with bachelor degrees and higher working in three hospitals in Iraq. The study was cross-sectional in design. Their knowledge of pressure ulcer prevention, the sources of that knowledge, and the obstacles that impede effective pressure ulcer treatment and prevention were evaluated from April to October of 2022. To describe nurses' levels of knowledge and obstacles to preventing pressure ulcers, means, standard deviation, and frequencies were employed. Results: Most nurses lacked adequate knowledge about how to prevent pressure ulcers. With the lowest score in topics linked to overall knowledge about the etiology and development of pressure ulcer, the mean scores for total knowledge about the etiology and development of pressure ulcer were 0.32 (SD = 0.217). The most commonly stated obstacles to conducting pressure ulcer risk assessment, documentation, and prevention were a lack of training and education concerning pressure ulcer prevention, a staffing shortage, and a lack of policies, instructions, and recommendations on the prevention of bedsores. Conclusions: This study raises questions about the pressure ulcer prevention knowledge of Iraqi nurses. Based on recommendations from the National Pressure Ulcer Advisory Panel, the findings of the current study revealed that Iraqi nurses had insufficient knowledge of pressure ulcer prevention. Additionally, the lack of a correlation between years of experience and pressure ulcer awareness and the low level of understanding of pressure ulcers among nurse's point to poor diffusion of information about pressure ulcers in Iraq.
Keywords: Pressure ulcer, Prevention, Knowledge, Barriers, Nurses.

1. Introduction

Background and Significance of the Problem

Decubitus ulcers, pressure sores, and bedsores were all earlier names for pressure ulcers (Berman et al. 2010). Berman et al. (2010) mentioned that pressure ulcers are injuries to the skin and/or underlying tissue caused by force alone or in combination with movement, commonly over a bony prominence. Pressure ulcers are an issue in both acute care and long-term care facilities, such as nursing homes.

The nursing staff is now primarily responsible for the prevention and treatment of pressure ulcers (Romero-Collado et al., 2013). Beeckman et al. (2010) stated that it is critical to have a thorough understanding of pressure ulcers in order to prevent them.

Patients with mobility issues and the elderly are most vulnerable to PU, with a yearly incidence rate of 8.3 to 25.1% throughout Europe, the United States, Canada, and Australia (Woodbury et al., 2004).

According to the research, 65,000 individuals die from PU-related problems for every million patients who get the treatment (Glance et al., 2008).

Whittington et al. (2000) declare that 73% of individuals with pressure ulcers were above the age of 65. The sacrum and coccyx were found to be the most common locations, accounting for 26% and 31% of the total. The majority of pressure ulcers (57%) were present at the time of the initial examination (Curley et al., 2003).

Patients and their loved ones are eager to be released from the hospital as soon as possible so that they may be reunited with their families. It is important to stress this point. This expectation is commonly dashed when pressure ulcers interfere with the clinical management of a hospital stay. It is not only patients who are affected by PU and its treatment in terms of receiving high-quality healthcare; their families and the healthcare system as a whole are as well (Uba et al., 2015).

Conceptual Framework of the Study

Pressure ulcers are a major health-care issue across the globe because of their high death and morbidity rates, as well as their high health-care expenditures (Hossain et al., 2022).

Brem et al. (2004) mentioned that in the United States, decubitus ulcers afflict up to 2.5 million people each year. According to another study, UK

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pressure ulcer rates varied from 2.2 percent to 66 percent, while those in the United States and Canada ranged from 0 percent to 65.6 percent, according to a study published in JAMA Internal Medicine (Kaltenthaler et al., 2001). Ghafoor et al. (2021) declare that a pressure ulcer is a common consequence of prolonged hospitalization that can be avoided. Although debilitating, it can be avoided with careful examination and management.

Hypothesis

In the units of pressure ulcer, there is a strong correlation between nurses' knowledge and years of experience. There is a strong correlation between barriers and place of experience. And there is a strong correlation between nurses' knowledge and level of education.

Significance of the Study

Researchers set out to find out how well nurses understood pressure ulcer prevention and how that knowledge was hindered. Nursing education, practice, and research in Iraq will benefit from this study's results. It will serve as a starting point for higher-ups to organize a staff development campaign to enhance care quality. There will be a new look at nurses' understanding of pressure ulcer prevention as a result of this research, which will contribute to the body of information about the topic. For nurses, in-service training and educational programs may be beneficial.

Theoretical Framework

Concept of Pressure Ulcer Development

A pressure ulcer may be referred to using a variety of terms including bed sore, decubitus ulcer, and pressure sore, among others. Sewchuk et al. (2006) stated that when tissue injury occurs as a result of applying mechanical stresses to bony prominences, a pressure ulcer develops. Every year, around 1.7 million people get a pressure ulcer. Pieper, 2007 (as cited in Md. Shariful Islam, 2010).

Young et al. (2003) declare that Pressure ulcers harm around 1 million people in the United States, costing $1.6 billion yearly. It is critical to correctly identify and classify a pressure ulcer in order to accurately report the severity of the condition and to prevent it as soon as possible (Defloor & Schoonhoven, 2004).

Hilgart et al. (2014) mentioned that the Pressure ulcers (PrUs) are a common, mostly preventable cutaneous condition in patients with spinal cord injury (SCI) that can have major health consequences.

Definition of pressure ulcer

Any lesion generated by unrelieved pressure that results in harm to the underlying tissue is referred to as a pressure ulcer. Various organizations have different definitions for pressure ulcers. A pressure ulcer is "localized injury to the skin and/or underling tissue usually over a bony prominence, as a result of pressure or pressure in combination with shear and/or friction." (National Pressure Ulcer Advisory Panel [NPUAP], 2007).

Mohamed, I. R., and Mohamed, E. E. E. (2013) reported that bedsores, also known as pressure sores or pressure ulcers, are regions of skin damage and tissue that occur when persistent pressure shuts off circulation to any part of the body, particularly portions over bony or cartilaginous areas such as the sacrum, elbows, knees, ankles, and so on. The damaged tissue dies if there isn't enough blood flow.

Stages of pressure ulcer

National Pressure Ulcer Advisory Panel (NPUAP) in 1989 devised an ulcer stage system that is being used today. Stage I, Stage II, Stage III and Stage IV were the four typical phases of pressure ulcers. Recently, the pressure ulcer staging system was restructured by NPUAP (2007) into six distinct categories. Stages I, II, III, IV, V, and VI of a pressure ulcer are all possible. Blood-filled blisters and purple or maroon patches of intact skin are also signs of a possible deep tissue injury, as are bruises induced by pressure and/or shear.

Non-blanchable reddish skin in stage I pressure ulcers may be unpleasant, stiff or soft; warm or cooler than stage II ulcers. When a patient has a non-blanchable redness on their skin, it indicates that they have a stage I pressure ulcer. If you have dark skin, it's hard to detect the difference between blanching and that. Blisters filled with serum and a partial loss of skin thickness define stage II pressure ulcers. Undermining and tunneling are both signs of stage III pressure ulceration, which includes full-thickness tissue loss that does not expose bone or tendon or muscle. Stage IV pressure ulcers include full-thickness tissue loss, exposing bone, tendon, or muscle, with slough or Escher. Full-thickness tissue loss with slough covering the ulcer's base are considered unstageable pressure ulcers. Wounds in various shades of color and/or Escher (tan, brown, or black) (National Pressure Ulcer Advisory Panel [NPUAP], 2007).

Pathophysiology and risk factors for pressure ulcer development

Outward theory and inward theory are two ideas that explain the pathophysiology of pressure ulcer development. According to the outer theory, muscle tissue dies first as a result of pressure. From the bone outward, a pressure ulcer develops. First, deep tissue damage occurs around the bone and continues until the epidermis dies, causing skin collapse (Maklebust & Sieggreen, 2001). According to Maklebust and Sieggreen (2001) the inner hypothesis is a second possibility. Both external and internal pressure are transmitted via the epidermis, which in turn sends these forces to the bone. Blood vessels, fascia, and the skin are all squeezed as a result of these two opposing forces. The skin's outermost layer, the epidermis, is the first to be damaged, and the damage spreads downward. Mechanical forces such as friction and shear can play a role in the development of pressure ulcers. These two mechanisms produce tissue ischemia and ulceration. Pressure ulcer risk factors were divided into extrinsic

and intrinsic risk variables in most studies. External factors include movement, activity, skin wettability, friction, and shear forces. Mobility is a term used to describe one's capacity to move about and hold one's body in various situations. A person's capacity to heal pressure sores and improve circulation and metabolism are all assessed via physical activity. The development of pressure ulcers is influenced by a variety of internal variables, including malnutrition, advanced age, the use of vasoactive drugs, low blood pressure, stress, fever, and sensory perception. Bergstrom et al. 1987 (as cited in Islam, 2010).

In prolonged stillness, the lack of movement in sleep has a negative impact on blood circulation, resulting in body pain, transient numbness, and bed sores (Mohammed, 2011).

Bergstrom (1987) reported that Moisture from urine, feces, sweat, and wound drainage weakens the epidermis' natural barrier when exposed for an extended period of time. Islam (2010) reported that Pressure, shear, and friction were shown to be important extrinsic factors in the development of pressure ulcers, as were immobility, restricted activity, and pressure. In addition to these extrinsic risk factors, malnutrition, advanced age, diminished sensory function, poor blood circulation, and the use of certain medicines were also evaluated. The pathophysiology of pressure ulcer formation and its contributing factors must be understood by nurses in order to conduct risk assessment and preventive therapy. Nurses who have these abilities may better identify patients at risk for getting pressure ulcers.

Shannon and Lehman (1996) stated that patients who are elderly, especially those who are critically ill, are at a higher risk of developing pressure ulcers. The significant risk of skin disintegration in this patient population is exacerbated by age, underlying chronic illnesses, and acute sickness or injury. Other factors that may contribute to the development and progression of pressure ulcers include nutrition, drugs, discomfort, support surfaces, infection, and incontinence.

Shannon and Lehman (1996) declared that it is feasible to avoid pressure ulcers in the critical care unit if nursing personnel are informed of the probable repercussions of these disorders and how to manage their effects.

Current Nurses' Knowledge and Practice Towards Pressure Ulcer Prevention

A number of studies on nurses' knowledge and practice in the prevention of pressure ulcers have shown considerable gaps in their knowledge and practice (Islam, 2010).

Panagiotopoulous and Kerr (2002) conducted nurses at a British hospital were surveyed on their knowledge and practice of preventing pressure ulcers. Discovered When asked about "risk factors" and "areas of danger," several nurses said that they had no idea that "massage" and "donuts" were no longer recommended.

Gunningberg et al. (2001) investigated this is an area in which Swedish staff nurses have a lot of expertise and experience. Preventing pressure ulcers in patients at high risk, such as those with hip fractures, was a difficult task for many of the nurses who worked on the project.

2. Methodology

Research design

A cross-sectional descriptive study design was carried out in the present study. to explore the nurses' knowledge and Barriers regarding pressure ulcer prevention for hospitalized patients in Iraq.

Setting and sample

According to the findings, Iraqi nurses in the Kerbala Region were the subjects of this research. Located around 100 kilometers (62 miles) southwest of Baghdad, Kerbala is a city in Iraq. According to the Iraqi Ministry of Health (IMOH) annual data report, it has 13 hospitals with a total capacity of 1,936 beds (3.125 percent of the total hospitals in Iraq) (Central statistical organization, 2020). So that participants may interact with pressure ulcer patients and have a representative sample of the local nursing workforce, only hospitals with 150 or more beds in the following specialties were considered for participation. In the research, only three of the 13 Kerbala hospitals had 150 beds or more, hence only three of them were included in the sample. Figure 1 depicts the stages involved in selecting a hospital.

The accessible population consisted of all three hospitals' eligible nurses. One hundred and fifty-one of the hospitals' 510 nurses worked directly with adult patients.

Nurses from the three hospitals' staff rosters were selected at random (N = 220). Participants were selected at random from the eligible nursing population. The following criteria were used to determine eligibility: The following criteria must be met: (a) male and female nurses with a bachelor's or higher degree in nursing; (b) those who provide direct care nursing in their units (Medical Orthopedic Intensive Care Burns Surgical and Coronary Care); and (c) those who have at least one year of clinical experience.

Ethical Consideration

According to the proper research ethics commission, the study was given the go light. The study's goal and the nurses' rights to decline or withdraw were explained to them.

Study instrument

Gender, age, Certificate, hospital type, Years of experience, place of experience, and have you participated in past courses on the prevention of bedsores were all included in the demographic characteristics section of the questionnaire.

The Pressure Ulcer Knowledge Test Tool, created by Beeckman et al., was the second component. The total number of right responses was used to evaluate the nurses' knowledge of pressure ulcers. Using 26 multiple-choice questions, the test examines six major aspects of pressure ulcers. The instrument had

three answer alternatives for multiple-choice questions, with the fourth being "I don't know the answer." As a precaution, the fourth option was included. In this case, the right answer was worth one point, while the incorrect answer was worth nothing. The measure of the reliability of the study instruments during pilot study was conducted between 3 Jun 2022 to 24 Jun 2022 the reliability of the questionnaire is determined through through (25) nurses, determining the reliability based on the Cronbach's Alpha it was determined through the use of the following formula:

$$r = \frac{n\sum xy - (\sum x)(\sum y)}{\sqrt{(n\sum x^2 - (\sum x)^2)(n\sum y^2 - (\sum y)^2)}}$$

The result of reliability for the nurses' knowledge and barriers to perform pressure ulcer prevention practices were as shown in the table 1.

Table 1 : Reliability Statistics by Cronbach's Alpha

Concepts	Cronbach's Alpha
Knowledge	0.882
Barriers	0.736

The reliability is determined by the use of Cronbach's Alpha procedures. The reliability ranges from (0.00) to (1.00), and reliability above (70) is considered satisfactory (yount, 2006). The period required to complete the reliability of the study instrument was three weeks. the CVI (content validity index) was 0.80 by ten experts (Yusof, 2019).
For pressure ulcer prevention implementation, a list of obstacles was presented in the third part of the

report. It was used to examine, record, and implement Pressure ulcer prevention strategies. Participants were allowed to choose the top three obstacles in each category. For the third part of the survey, Moore and Price developed instrument (Moore & Price, 2004).

Data collection

An invitation to participate in the research was addressed to local hospitals by the Training and Human Development Center/Research Committee. To participate, participating hospitals were requested for the names of their nurses who met the eligibility criteria and agreed to participate in the study. All participants signed a permission form after being given information about the study, the fact that their participation was completely voluntary, and assurances of their privacy. Each place where information is collected is shown in Figure 1.

Data analysis

We will use SPSS V. 21 software to manage and analyze the data. Descriptive statistics including number and percentage of frequency, mean and standard deviation and inferential statistics in proportion to the distribution of data will be used in terms of normality. We also will use K-S for determining normal distribution of data. Pearson correlation test, two-sample independent t-test and analysis of variance are used to examine the differences and correlation between variables .Also, if the data are not normal, their nonparametric equations are used: Spearman correlation test, Mann-Whitney test and Kruskal -Walli's test, respectively. We will use regression analysis for estimating relationship between variables.

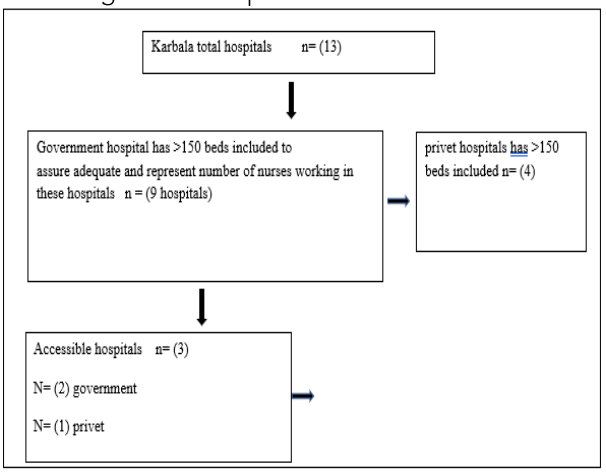

Figure 1: Study Sampling and Data Collection Points

3. Results

Participants' characteristics

The sample consisted of 225 eligible nurses who provide direct bedside care for patients. Table 2 shows demographic details of the sample. The majority of participants were females (n = 120, 53.3%). Age ranged from 19 to 425 years, with a mean age of 27.76 years (SD = 5.64, range = 19–25). The majority had a bachelor's degree (39.6%, n = 89), while other nurses had diploma degrees (36.0%, n = 81), and 62.7% (n = 141) of the nurses reported that they had not received training or education about pressure ulcer. Most of the participants (89.8%, n = 202) had clinical nursing experience of between one to ten years, and 8.4% (n = 19) had eleven to twenty years, while 1.8% (n = 4) had twenty-one to thirty-one years of clinical nursing experience. The majority of participants (62.7%, n = 141) had not previously participated in pressure ulcer research. The statistical analysis of the participants' demographics revealed that there was no significant relationship between nurses' knowledge of pressure ulcer prevention and their age, years of experience, current higher education. In contrast, gender had a significant relationship with nurses' knowledge of pressure ulcer prevention (see Table 3).
A list of obstacles to evaluating, documenting, and putting pressure ulcer prevention techniques into practice was used to gauge implementation difficulties. Lack of staff (M 3.83, S.D. 1.275), lack of policies, instructions, and guidelines on the prevention of bedsores (M 3.76, S.D. 1.12), lack of resources or equipment (M 3.76, S.D. 1.12), and lack of training and education about the prevention of pressure ulcers were the most frequently mentioned reasons (M 3.71, S.D 1.16). Table 4 lists potential impediments to doing pressure ulcer risk

assessment, pressure ulcer documentation, and pressure ulcer prophylaxis. Shortage of staff and lack of training and education about pressure ulcer prevention were the most frequently stated impediments to carrying out pressure ulcer risk assessment (M 3.83, S.D 1.27), (M 3.99, S.D 1.02). (M 3.99, S.D 1.02). After staff and a lack of staff training and education about pressure ulcer prevention, lack of policies, instructions, and recommendations on the prevention of bedsores were the most often mentioned issues. For instance, the patient might not cooperate or be too unwell to be evaluated (M 3.23, S.D 1.13). To conduct out pressure ulcer risk assessment, documentation, and prevention, job discontent (M 3.18, S.D 1.24) was mentioned as at least as significant a barrier.

Table 2: Distribution of the Participants According to Demographics Characteristics

Demographics	Subgroup	f.	%
Gender	Male	105	46.7
	Female	120	53.3
	Total	225	100.0
Age Mean ± SD 27.76 ± 5.648 Min 19 – Max 50	19-25 years	189	84.0
	26-35 years	22	9.8
	36-50 years	14	6.2
	Total	225	100
Level of education	Secondary	54	24.0
	Diploma	81	36.0
	College	89	39.6
	Master	1	.4
	PHD	0	0
	Total	225	100.0
Type of hospital	Private	77	34.2
	Governmental	148	65.8
	Total	225	100.0
Place of experience	ICU	92	40.9
	Burn unit	5	2.2
	CCU	26	11.6
	Medical unite	40	17.8
	Surgical unit	57	25.3
	Fracture unit	5	2.2
	Total	225	100.0
Years of experience Mean ± SD 4.92 ± 5.245 Min 1 – Max 31	1-10 years	202	89.8
	11- 20 years	19	8.4
	21-31 years	4	1.8
	Total 225	100	
Training course	Not had	141	62.7
	Had	84	37.3
	Total	225	100.0

M = mean of score, S. D=Standard Deviation, f= Frequency, %Percentage

Table 2 showed that age of participants (Nurses=225) with Mean 27.76 years and 84% of the participants their ages from 19 to 25 years, regarding to the gender at most 53.3% the participants were women, according to levels of education at most 39.6% had completed college and the 65.8% of the participants works in governmental hospital. Regarding the place of work at most 40.9% in intensive care unit with mean 4.92 years of experience, also the results showed just 37.3% had training course about prevention of pressure ulcer.

Table 3: The relationship between the levels of nurse's knowledge and barriers with their qualitative demographic information's

Demographics	Subgroup	Knowledge					Barriers				
		Mean	SD	F	p. value	Sig.	Mean	SD	F	p. value	Sig.
Gender	Male	.41	.145	4.677	.032	S	3.40	.696	2.976	.086	NS
	Female	.37	.139				3.55	.611			
Level of education	Secondary	.36	.158	1.407	.242	NS	3.55	.640	.539	.656	NS
	Diploma	.41	.152				3.41	.744			
	College	.40	.123				3.50	.576			
	Master	.44	.0				3.40	.			
	PHD	.0	.0				.0	.0			
Type of hospital	Private	.43	.123	7.601	.006	S	3.33	.674	6.262	.013	S
	Governmental	.37	.149				3.56	.633			
Place of experience	ICU	.42	.135	2.681	.022	S	3.39	.697	1.480	.198	NS
	Burn unit	.54	.203				3.46	.527			
	CCU	.34	.115				3.75	.576			
	Medical unite	.39	.122				3.41	.618			
	Surgical unit	.37	.165				3.55	.591			
	Fracture unit	.34	.112				3.54	1.090			
Training course	Not had	.42	.152	10.078	.002	S	3.48	.624	.033	.855	NS
	Had	.35	.118				3.47	.706			

P=probability value, NS: Non-Significant at P > 0.05, S: Significant at P < 0.05, HS: Highly Significant at P < 0.01.

The results in table 3 showed there were significant statistical differences between the levels of nurse's knowledge with their qualitative demographic information's at P < 0.05 except level of education. Also, the results showed there were significant statistical differences between the levels of nurse's barriers with their type of hospital at P < 0.05.

Table 4: Distribution nurses' barriers to perform pressure ulcer prevention practices

Items	M	SS.D	EEva.
Shortage of nursing staff.	3.83	1.275	H
Lack of time.	3.16	1.097	M
lack of equipment	3.71	1.165	H
Lack of training and education about pressure ulcer prevention.	3.99	1.020	H
Lack of policies, instructions, and guidelines on the prevention of bedsores.	3.76	1.120	H
Lack of cooperation between members of the medical team.	3.19	1.232	M
Research findings related to bedsores are not easy to apply.	3.22	1.104	M
The patient is uncooperative or unstable.	3.23	1.137	M
Lack of legal liability with respect to certain patient safety risks (eg, development of a bed ulcer).	3.52	1.082	M
Job dissatisfaction.	3.18	1.249	M
Total barriers to perform pressure ulcer prevention practices	3.48	.655	**M**

M = Mean of score, S. D=Standard Deviation, Eva=evaluation level, L = low (1 – 2.33), M= Moderate (2.34- 3.66), H = high (3.67- 5).

Tables 4 showed the assessment of the level of barriers to perform pressure ulcer prevention practices were moderate with Mean ± SD 3.48 ± .655.

4. Discussion

It is clear that nurses have little to no awareness of pressure ulcer prophylaxis (pieper & mott, 1995). According to Stephens and Bick (2002), rather than scientific evidence, pressure ulcer prophylaxis appears to be based on expert opinion and tradition. Nurses' knowledge of pressure ulcers was evaluated using a cutoff of 50% (correctly answering 13 out of 26 items on the pressure ulcer knowledge test), which was found inadequate in compared to similar findings in the pertinent literature (Halfens & Eggink, 1995). El Enein & Zaghloul (2011), Pieper & Mott (1995), Panagiotopoulou & Kerr (2002), Beeckman et al. (2010), and El Enein & Zaghloul (2010) used different methods, a different knowledge test, and different evaluation criteria, despite the fact that the results of the current study were comparable to those of those studies. For instance, Pieper and Mott (1995) used a pressure ulcer knowledge test to investigate nurses' knowledge of pressure ulcer prevention and staging and discovered that nurses had little understanding of these topics. The results of more recent research (El Enein & Zaghloul, 2011; Beckman et al., 2010) showed that nurses' knowledge was inadequate and subpar. While Beeckman et al. (2010) utilized a lower cutoff threshold (60 percent) and obtained comparable results, El Enein et al. (2011) discovered that nurses' knowledge of pressure ulcer prevention was below the cutoff point they specified (70 percent). These studies recommended that guidelines be adopted in clinical practice and that nurses' understanding of pressure ulcer prevention be strengthened. According to Gunningberg (2005) and Sinclair et al. (2004), who evaluated nurses' knowledge of treating pressure ulcers, knowledge among nurses was moderate.

This study's findings about the knowledge gap among nurses could be due to a variety of factors. One is related to educational options, including personnel issues and issues with availability, timeliness, and cost of education.

An additional element in preventing pressure ulcers is the Risk Assessment Scale (RAS). The majority of hospitals in Iraq do not have advanced pressure ulcer prevention techniques or risk assessment tools. Another explanation for the nurses' lack of understanding of pressure ulcer prevention is that they were not properly trained in applying such cutting-edge techniques and the pressure ulcer RAS. Because of this ignorance, nurses may provide subpar care, particularly if they employ antiquated techniques and/or inconsistent treatments.

The results of the current study corroborate those of Pieper and Mott (1995) and Hulsenboom et al., who found that there were minor differences in knowledge scores with regard to nursing education, years of practice, pressure ulcer training, or age (2007).

Barriers to using recommendations, a lack of education and training regarding the prevention of pressure ulcers, a staffing shortage, and a lack of time were all shown to have an impact on the distribution of knowledge about pressure ulcer prevention among nurses. Similar findings were made by Moore and Price (2004), who noted that impediments such a staffing shortage and a lack of time exist despite nurses' good opinions regarding pressure ulcer prevention. Compared to El Enein and Zaghloul (2011), the current study finds that knowledge of pressure ulcer prevention is still low and has not considerably improved. This is true despite increased attention to and new innovations in the field of pressure ulcer care.

In this study, nurses' perceived impediments to carrying out pressure ulcer prevention were placed first and most frequently as a lack of training and education and a staffing shortfall, with a lack of policies, instructions, and guidelines on the

prevention of bedsores coming in second. The findings of (Jordan O'Brien & Cowman, 2011) were in support of these conclusions. Who discovered that the primary obstacle to finishing the nursing documentation of pressure ulcer care plans was a lack of time and staff.

This study raises questions about the pressure ulcer prevention knowledge of Iraqi nurses. According to the recommendations of the National Pressure Ulcer Advisory Panel, the findings of the current study revealed that Iraqi nurses had insufficient knowledge of pressure ulcer prevention. These results also point to a lack of knowledge about pressure ulcers being published in Iraq.

5. Conclusions

The majority of the nurses in the current study lacked the knowledge necessary to act competently in the prevention of pressure ulcers. In actuality, not enough nurses passed the pressure ulcer knowledge test with the minimal mark (50 percent; 13 out of 26 correct answers). The results showed that nurses lack the necessary education to accurately predict and prevent pressure ulcers. This affirms the demand for a pressure ulcer education program to be implemented in Iraqi healthcare facilities in order to enhance patient outcomes. In conclusion, there was a lack of information regarding pressure ulcer prevention among Iraqi nurses. Additionally, it appears that a requirement for raising the standard of pressure ulcer prevention is adequate dissemination of pressure ulcer prevention guidelines. To ensure enough support for making changes based on patient outcomes, improving practice necessitates a diverse strategy. It is necessary to conduct further study on pressure ulcer prevention in healthcare settings.

6. Limitations

My study has some drawbacks, such as the use of a self-administered questionnaire and the sample selection being restricted to Karbala hospitals. Though nurses in Karbala hospitals are comparable to those in other Iraqi regions in that there aren't significant regional differences in the type of education they receive, the researcher is of the opinion that the findings of this study can be applied to all nurses working in the country's healthcare system.

7. Recommendations

A pillow and encouragement to alter positions is used for patients who can move, and repositioning patients every 2 hours or more often if required is done by nurses.

In order to help healing and prevent the chance of future ulcers, utilize a foam, gel, or air mattress.

You may want to put a mattress of some kind on chairs and wheelchairs.

Vitamin C and zinc supplements are given to patients who are undernourished; body weight is checked; serum albumin and protein markers are also evaluated.

There must be enough fluid intake (including intravenous, where necessary) and supplemental fluids given to dehydrated patients.

It's crucial to keep your skin and hygiene in check (for example, meticulous hygiene and skin care for the incontinent patient to prevent breakdown of the affected tissue and skin).

A moist dressing (wet gauze or foam) is used to manage the exudate and a secondary dressing is applied to cover the wound in stages II and IV.

When necessary, surgical debridement for wounds in stages III or IV (Haesler, 2014).

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