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Knowledge and Attitude among Nurses Towards Pressure Ulcer Prevention at Palestinian Hospital

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ABSTRACT

Background: Pressure ulcers (PU) remain a serious complication of immobile patients and a burden for healthcare professionals. The incidence and prevalence remain alarming. Knowledge and attitudes of nurses play a fundamental role in prevention. Aim of the study to assess knowledge and attitude towards pressure ulcer prevention in Palestinian hospital.

Methodology: A quantitative cross-sectional study was conducted at fourth hospitals in Jenin and Nablus for one month from 1-4-2023 to 1-5-2023, a sample size was 150 participant, who met inclusion and exclusion criteria, data was collected by three section, first section was nurse's demographic characteristics, second section was PressureUlcer Prevention Knowledge Assessment Instrument (PUPKAI), and third section was Attitude towards Pressure Ulcer Prevention Instrument (APUP)

Result: The main result on our study shows that the level of nurse's knowledge regarding PrUs preventive measures at Palestinian hospitals is low, and the level of nurse's attitude regarding PrUs preventive measures at Palestinian Hospitals is high, and there is no significant relationship between knowledge and attitude regarding PrUs preventive measure among nurse's at the Palestinian Hospitals.

Conclusion: Results showed insufficiencies in the knowledge and attitudes of nurses towards PU prevention. Therefore, it is essential to focus on general education and continuing education and practice of nurses. Further development of educational programs and frequent measurement of these two parameters can lead to a significant improvement in the quality of care provided

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List of Abbreviation

PU: Pressure Ulcer
APUP: Attitude Towards Pressure Ulcer Prevention
PUKAT: Pressure Ulcer Knowledge Assessment Tool
ICU: Intensive Care Unit
QOL: Quality of Life
CCNs: Critical Care Nurses
NPIAP: National Pressure Injury Advisory Panel
IRB: Institution Review Board
PI: Pressure Injury
NHS: National Health Service
N: Sample size
Min: Minimum
Max: Maximum
SD: Standard Deviation

Introduction

Pressure ulcers are painful burden for patients/clients of all ages, which causes complications as comfort, pain, quality of life, costs and a long stay in hospitals. They might result in a life-threatening situation. The issue of pressure ulcer incidence is very complex. It includes regulations and auditing, implementation of adequate preventive and treatment procedures, resources, evidence-based practice, educated staff and active involvement of professionals. Despite progressive technologies and successful clinical researches in terms of prevention and treatment, pressure ulcers present high incidence of 7–71.6%, and considerably high mortality [1-5]. The cost of pressure ulcer prevention varies between 2.65€ to 87.57€ a day per patient while the cost of pressure ulcer treatment ranged between 1.71€ to 470.49€ a day per patient [6]. Monitoring the incidence of pressure ulcers in Slovakia has not been unified yet; the problem rests in the inconsistency of evaluation and standardization of pressure ulcers prevention and treatment, insufficiencies in reviews and audits, missing methodological guidance, preventive programs and relevant data collection [7].

There are international and national guidelines for pressure injury prevention in place. According to these guidelines, regular surveys should be carried out among health care professionals to evaluate the educational needs of clinical staff. The knowledge and attitudes of nursing staff towards pressure injury play an essential role in treatment planning, prescribing appropriate prevention measures for each patient, and subsequently evaluating and achieving these preventive measures [8]. In addition, nurses with higher levels of education were found to have better knowledge and skills

compared to those with lower levels of education [9,10]. It has also been shown that negative attitudes towards pressure injury prevention may result in a suboptimal quality of prevention efforts [11].

Medical and surgical units is a department of a hospital as a proper treatment for a certain type of a disease, its provide appropriate care to the patients and they prevent a complication associated with surgery. In these departments, the patients report many physiological variables to the specialty on systemic manner so that titrated care will be provided when needed [12]. patients in medical and surgical units are subjected to many complications related to many factors, such as an unfavorable result of a disease, health condition, or treatment, direct intraoperative trauma or stretch, vascular compromise, perioperative infection, hematoma formation, prolonged tourniquet ischemia, or improperly applied casts or dressings. Pressure ulcer (PrUs) is one of these complications which is common in patients due to several factors such as immobilization, nutrition deficiency and Prolonged surgery and anesthesia, specific positions for different operations, excessive blood loss, and physical maneuvering[13].

Adequate standards of care related to pressure ulcers should be implemented on all levels of care and should be one of the priorities of any hospital and home care setting to deliver adequate and high quality of care [14-16]. Standardized instructions can significantly prevent pressure ulcers [17,18]. European Pressure Ulcer Advisory Panel (EPUAP) sets and regularly reviews standards and procedures of pressure ulcer management on bases of research. In many cases, it was found that standards and procedures are not used or used insufficiently [19,20]. Standards for pressure ulcer care for the Slovak health care system were formulated more than 10 years ago [21]. They have not been updated since, and it can be seen as a deficiency [11].

Pressure Ulcers (PUs) are a significant problem in healthcare. They do not only affect the quality of life, morbidity and mortality of patients, but they also have an impact on healthcare costs. According to the recent studies in the Asian States, the prevalence of pressure ulcers in Palestine is considerably higher than in China and Jordan. However, it is still lower than the prevalence reported in comparable published studies in Western Europe [22].

This study focuses on assistant nurses at a hospital, in particular due to their active involvement in pressure injury risk assessment in Palestine. It is crucial to identify the strengths and weaknesses in assistant nurses' knowledge and attitudes about pressure injuries in order to identify potential knowledge gaps and determine what kind of pressure injury training would be the most beneficial for assistant nurses, thus ultimately benefiting patients at risk. To ensure progress in their training, the knowledge and attitudes of assistant nurses need to be investigated and assessed using evidence-based instruments. Therefore, the aim of this study was to assess knowledge and attitude toward prevention of pressure ulcer among nurses in Palestinian hospitals.

Theoretical Framework

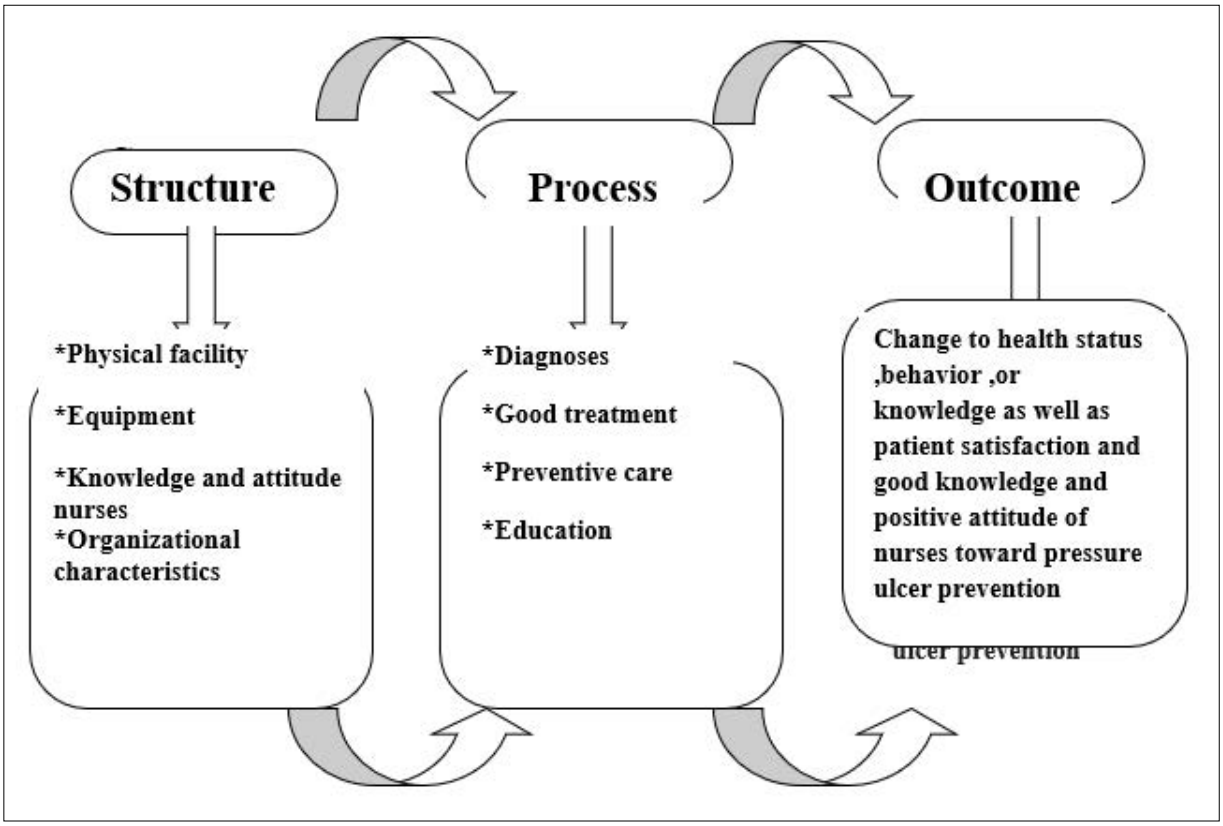

Figure 1: The Relationship Between the Components of Framework

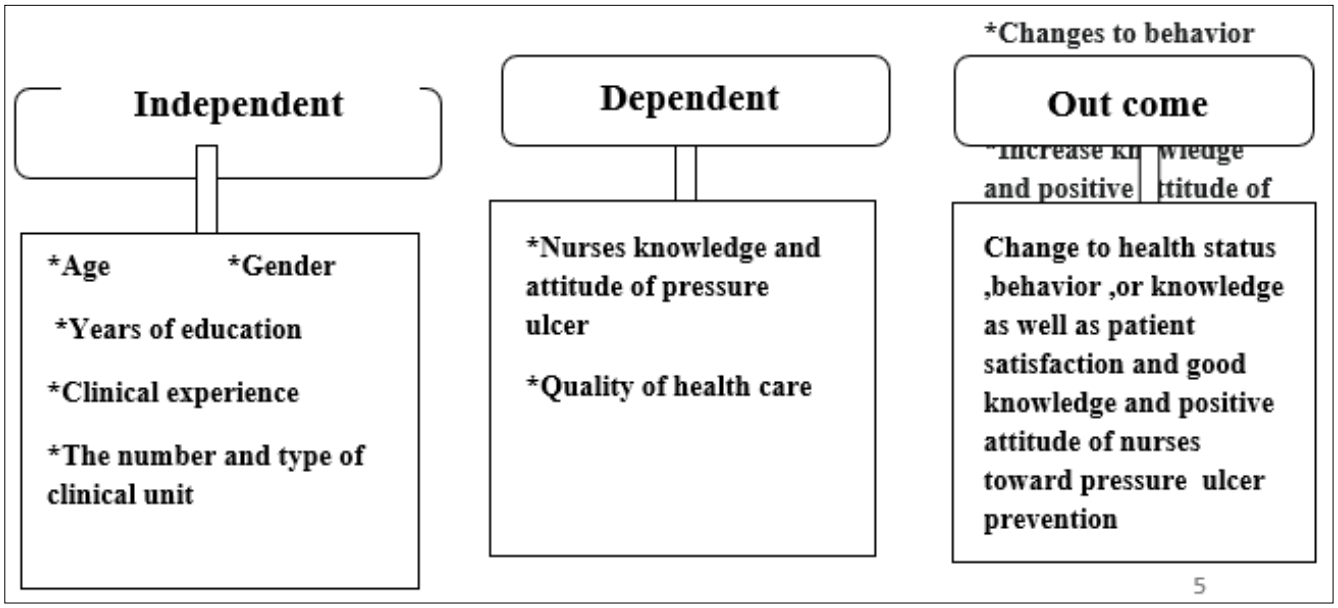

Figure 2: A Conceptual Framework Illustrates the Expected Relationship Between Variables

Study Design
A quantitative cross-sectional study was used to assess the knowledge and attitude of nurses toward pressure ulcer prevention in Palestine that was conducted on employees who work at fourth hospitals in Jenin and Nablus, (Jenin governmental hospital and Ibn Sina Specialized hospital-Jenin / Rafeidia hospital and Specialized Arab hospital-Nablus).

Study Population
In this study target population, all nurse staff working in the medical and surgical departments who have acceptance to participate in this study during the period of data collection for one month from 1-4-2023 to 1-5-2023, which is from Palestinian hospitals that selected in Jenin and Nablus.

Study Setting
This study was conducted non randomly in fourth hospital in Palestine where is in Nablus and Jenin (Jenin governmental hospital and Ibn Sina Specialized hospital-Jenin / Rafeidia hospital and Specialized Arab hospital-Nablus), because that is easy to access to some of them. These hospitals were chosen to represent a mix of governmental and private healthcare institutions in two major cities, providing a comprehensive overview of the nursing practices and challenges in various healthcare settings within the region.

Sample Size
In the present study, the total number of nurses who work in medical and surgical departments in the targeted hospitals is approximately 150 nurses. A convenience sample was made up of nurses who were easy to reach and easy to gather data from in the selected period. So the final sample was 130 participants.

Sampling Criteria (Eligibility Criteria)
• **Inclusion Criteria:** All Nursing staff working in medical and surgical departments in targeted hospital. Nurses whom accept and met sample criteria to participate in our study and complete the questioner.
• **Exclusion Criteria:** Nurses not working in medical and surgical departments in targeted hospitals. Nurses who refuse to participate in our study. Nurses not complete the questionnaire. Nurses who are sick or on maternity leave during the data collection period. Student nurse who training in medical and surgical departments in the targeted hospital.

Sampling Method
We selected convenience nurses working in medical and surgical departments in Palestine hospitals (Nablus and Jenin), and went to the nurses in the hospital after taken an approval from Palestinian ministry of health, and distribute questioner to the nurses met including criteria.

Study Instrument
A modified questionnaire was used, it comprised of three sections: The first section from data collection was based on literature reviewed we plan to consist of six questions on nurse's demographic characteristics and clinical experiences, including age, gender, years of education, clinical experience, and the number and types of clinical units.The second section use Ulcer Prevention Knowledge Assessment Instrument (PUPKAI), It included 26 items and six themes, namely, ethology and development (6 items), classification and observation (5 items), risk assessment (2 items), nutrition (1 item), preventive interventions to reduce the amount of pressure/shear (7 items) and preventive measures to reduce the duration of pressure/shear (5 items). Each item had three answers where only one was the correct one.

The third section use Attitude towards Pressure Ulcer Prevention Instrument (APUP) to evaluate the attitudes towards pressure injury (PI) prevention. It included 13 items and 5 subscales, including personal competency to prevent pressure ulcers (3 items), priority of pressure ulcer prevention (3 items), impact of pressure ulcers (3 items), personal responsibility in pressure ulcer prevention (2 items), and confidence in the effectiveness of prevention (2 items). Six items were positive and seven items (items 3, 5, 7, 8, 9, 10, and 13) were negative so that they were reverse scored. Items were rated on a 4-point Likert scale (1 =strongly disagree, 4 = strongly agree) and the possible scores ranged between 13 and 52, with higher scores indicating positive attitudes.

Ethical Considerations

Ethical approval was obtained from the Institutional Review Board (IRB) at Nablus University for Vocational and Technical Education, and permissions were secured from the Medical Research and Ethics Committee of the Ministry of Health in Palestine, as well as hospital managers. Confidentiality and anonymity were maintained by assigning numbers to participants for data analysis, with no identifying information required on the questionnaires. Participation was voluntary, and written consent was obtained from the nurses. Participants were assured of no harm or risks, and their identities will remain protected if the research is published.

Validity and Reliability

The study instrument is reliable and valid as it was obtained from evidence based researches:(Pressure ulcer prevention: development and psychometric validation of a knowledge assessment instrument) and (Pressure ulcers: development and psychometric evaluation of the attitude towards pressure ulcer prevention instrument (APuP)). these two articles were published in 2010. The questionnaire was proved to have a good degree of reliability where Cronbach Alpha coefficient was found to be (75%) which is a good degree for such type of research. The results of reliability test for Cronbach's Alpha was 0.76.

Data Collection

The data was conducted from 1 of April 2023 to 1 of May 2023, after we taken the permission from medical research and ethics committee of the ministry of health in Palestine and Matron in including hospitals Nablus and Jenin to distribute the free access paper-based questionnaire to the nurses present in the departments, after this nurse met sampling criteria. in addition to the questionnaire circulated in an electronic at google form and soft copy on the social networking Sites of the department nurses who choose to fill soft copy, were emailed to them for filling then submit. The purpose and the nature of the study was explained and written informed consent obtained from the participants who were involved in this study. Knowledge and practice-based questionnaire was distributed among participants in two shifts (Morning and Evening-Shift B-). Participant read and filled the questionnaire individually and consulted the researcher for any clarification of unclear information. The questionnaire was designed in two forms: the first, paper to be distributed to the participants, data cleaning was done by inspecting the questionnaires for completeness before being accepted for data entry.

Data Analysis

The questionnaires were analyzed by SPSS program using some tests including: Descriptive statistics to find the frequencies, percentages, means and standard deviations. Correlation test to explore the relationship between knowledge and attitude. T test to find the differences attributed to gender. One-way Anova test to find the differences attributed to age, academic qualification, place of work, and years of experience

Results

Sample Characteristics

Table 1: Sample Distribution According yo Sociodemographic Data (N= 130)

		F	%
Age	22-30 years	82	63.1
	31-40 years	39	30.0
	41-50 years	8	6.2
	50 over	1	.8
Gender	Male	66	50.8
	Female	64	49.2
Academic Qualification	Diploma	20	15.4
	Bachelor	97	74.6
	Master	13	10.0
Place of Work	Jenin Governmental Hospital	40	30.8
	Ibn Sina Hospital	21	16.2
	Rafidia Hospital	35	26.9
	Al-Arabi Specialist Hospital	34	26.2
Years of Experience	5 years or less	75	57.7
	6-10 years	30	23.1
	11-15 years	17	13.1
	16 years or more	8	6.2

F: Frequency %: Percent

The table shows that (50.8%) of the sample were males, and (49.2%) were females. Regarding the age groups, the majority of the sample (63.1%) were within the age group (22-30 years), and (30%) within the age group (30-40 years).Regarding the academic qualification, the majority of the sample (74.6%) hold a Bachelor degree, while (15%) hold Diploma, and (10%) hold Master degree. place of work the majority of the sample individuals were from Jenin Governmental Hospital (30.8) , while (26.9%) were from Rafidia Hospital and (26.2%) were from Al-Arabi Specialist Hospital . The lowest percent of participants was from Ibn Sina Hospital (16.2%). the majority of the sample individuals have 5 years of experience or less (57.7) , while (23.1%) have 6-10 years of experience , and (13.1%) have 11-15 years. The lowest percent of participants was within the experience category (16 years or more).

Table 2: Means and Standard Deviation for the Sample Responses on the Knowledge and Attitude Regarding Prus Preventive Measures

		N	Min	Max	Mean	SD
Knowledge	Etiology and development (5 points)	130	.00	4.00	1.61	1.07
	Classification and observation (3 points)	130	.00	3.00	1.1	0.71
	Risk management (2 points)	130	.00	2.00	0.64	0.71
	Nutrition (1 point)	130	.00	1.00	0.53	0.50
	preventive measures to reduce the amount of pressure (4 points)	130	.00	4.00	1.75	1.15
	preventive measures to reduce the duration of pressure (3 points)	130	.00	3.00	1.37	0.77
	knowledge regarding PrUs preventive measures (18 points)	130	1.00	12.00	6.41	2.43
Attitude		130	26.00	47.00	35.30	4.75

N: sample size Min: Minimum Max: Maximum SD: Standard Deviation

The table shows that on the first axis which includes 5 points about etiology and development, the participants true responses ranged from (0- 4) with a mean of (1.60) out of (5). On the second axis which includes 3 points about classification and observation, the participants true responses ranged from (0- 3) with a mean of (1.04) out of (3).On the third axis which includes 2 points about risk management, the participants true responses ranged from (0-2) with a mean of (0.63) out of (2). On the forth axis which includes 1 point about nutrition, the participants true responses ranged from (0-1) with a mean of (0.53) out of (1). On the fifth axis which includes 4 point about preventive measures to reduce the amount of pressure, the participants true responses ranged from (0-4) with a mean of (1.74) out of (4). On the sixth axis which includes 3 point about preventive measures to reduce the duration of pressure, the participants true responses ranged from (0-3) with a mean of (1.36) out of (4).

On the total sum of knowledge which includes 18 points about knowledge regarding PrUs preventive measures, the participants true responses ranged from (1-12) with a total mean of (6.40) out of (18).This means that the level of nurse's knowledge regarding PrUs preventive measures at Palestinian Hospitals is low.

The attitude dimension includes (13) statements and the responses ranged from (1-4) where strongly disagree= 1 point, disagree = 2 points, agree = 3 points, and strongly agree = 4 points. On the total sum attitude which includes 52 points about attitude regarding PrUs preventive measures , the participants true responses ranged from (26-47) with a total mean of (35.30) out of (52) .This means that the level of nurse's attitude regarding PrUs preventive measures at Palestinian Hospitals is high.

Table 3: Correlation Test for the Relationship Between Knowledge and Attitude Regarding Prus Preventive Measure Among Nurses

Correlations	Knowledge	Attitude
Pearson Correlation	1	-.018
Sig. (2-tailed)		.838
N	130	130

The table shows that the sig value is more than the significant level (0.05) which means that there is no significant relationship between knowledge and attitude regarding PrUs preventive measure among nurse's at the Palestinian Hospitals.

Table 4: Relationship Between Knowledge and Attitude Regarding Demographic Data

Demographics data n = 130		Knowledge				Attitude		
		n	mean	SD	p-value	mean	SD	p-value
Gender	Male	66	5.84	2.22	0.001	36.33	5.17	0.01
	Female	64	6.98	2.50		34.23	4.03	
Age	22-30 y	82	6.40	2.47	0.47	34.56	4.53	0.08
	31-40 y	39	6.61	2.23		36.38	4.72	
	41-50 y	8	5.25	2.91		37.87	5.89	
	50 and over	1	8.00	.		33.00	.	
	Total	130	6.40	2.42		35.30	4.74	
Academic Qualification	Diploma	20	6.80	2.23	0.03	37.10	4.32	.11
	Bachelor	97	6.22	2.37		34.81	4.75	
	Master	13	7.15	2.99		36.15	4.82	
	Total	130	6.40	2.42		35.30	4.74	
Place of Work	Jenin Governmental Hospital	40	6.52	2.60	0.58	35.47	5.44	0.72
	Ibn Sina Hospital	21	5.80	2.42		34.90	4.62	
	Rafidia Hospital	35	6.71	2.56		35.91	4.65	
	Al-Arabi Specialist Hospital	34	6.32	2.08		34.70	4.10	
	Total	130	6.40	2.42		35.3000	4.74	
Years of Experience	5 years or less	75	6.36	2.51	0.52	34.98	4.82	0.61
	6-10 years	30	6.03	2.23		35.23	4.45	
	11-15 years	17	6.94	2.04		35.94	4.30	
	16 years or more	8	7.12	3.04		37.12	6.19	
	Total	130	6.40	2.42		35.30	4.747	

The table presents, The demographic analysis of 130 nurses revealed that female nurses and those with higher academic qualifications, particularly Master's degree holders, had significantly better knowledge about pressure ulcer (PrU) prevention. Male nurses exhibited a more positive attitude towards PrU prevention, with this difference being statistically significant. However, factors like age, place of work, and years of experience showed no significant impact on knowledge or attitude, despite trends suggesting that older and more experienced nurses may have a more positive attitude. These findings highlight the need to consider gender and educational background when addressing knowledge gaps in PrU prevention among nurses.These findings suggest that while some demographic factors influence knowledge and attitudes towards PrU prevention, other factors such as age and place of work do not seem to have a significant impact.

Summary

Significant differences were found in knowledge related to PrU prevention based on gender and academic qualifications, with females and nurses with higher academic degrees showing better knowledge. Male nurses and those with more experience had slightly more positive attitudes, although these differences were not statistically significant in most cases. There was no significant difference in knowledge or attitude based on the place of work or age.

Discussion

This descriptive study aimed to define the knowledge and attitudes towards pressure ulcer preventive measures at Palestinian hospitals (Nablus and Jenin). Five hypotheses were set to test the level of the knowledge, the attitudes, correlations and differences among variables. The results showed a lack of knowledge and attitudes to prevent pressure ulcers. This suggests that there are no major differences between most hospital. A questionnaire was used to measure the level of nurse's knowledge and attitude regarding PrUs preventive measures at Palestinian hospitals.

Reviewing the literature, the majority of researches mostly show lack of knowledge (23,24) and attitudes towards the management of pressure ulcers among nurses as same as it was revealed in this research. Few results showed satisfactory pressure ulcer knowledge and attitudes among nursing staff. In our study, knowledge and attitudes correlated positively and were statistically significant [23-25]. The same result was found in other studies [23,24]. Nurses with higher education scored better in most studies, although a few older works showed no significances in education or years of nursing experience [26,27]. This study showed that nurse with a bachelor's degree scored less than nurses with secondary nursing education due to the changed system and content of nursing education in Slovakia in the late nineties. Reading articles by nurses about pressure ulcers prevention has no significant effect on their knowledge [25].

The results of this research showed some findings, in this section of the researcher were talked about these findings and try to compare these findings and to link them with the theoretical and previous studies. The main findings of this research include that the level of nurse's knowledge regarding PrUs preventive measures at Palestinian hospitals is low and the level of nurse's attitude regarding PrUs preventive measures at Palestinian Hospitals is high.

This result is supported by Liu et al study which showed lack of knowledge of pressure ulcer prevention among support workers across both acute and community settings in the UK, and found that the weakest areas of knowledge include a etiology, risk assessment and addressing pressure-reducing interventions for patients at risk, while the participants in the study showed positive attitude [28].

This result is also supported by Aydogan study where nurses were found to have a low level of knowledge but positive attitudes toward PU prevention [29]. This results is also supported by Jiang et al study which showed insufficient pressure ulcer prevention knowledge among nurses participated in the study, but it showed negative pressure ulcer prevention attitudes among the sample of nurses [30]. This result is also supported by Mahmoud et al study which showed that most of the nurses had low knowledge for majority of items , but the same study also showed that all of nurses had negative attitudes regarding the prevention of pressure ulcer [31]. The results of our study also showed there is no significant relationship between knowledge and attitude regarding PrUs preventive measure among nurse's at the Palestinian Hospitals.

This result is not supported by Yilmazar et al study which showed a significant negative correlation existed between knowledge levels and attitudes of nurses to prevent pressure ulcer [32]. This result was also not supported by Tirgari et al study where a statically significant relationship was observed between pressure injury knowledge & attitude toward pressure injury prevention [33]. Significant statistical differences in knowledge and attitude toward prevention of pressure ulcer were found among nurses attributed to gender. Females reported higher level of knowledge but males reported more positive attitude than females. Significant statistical differences in knowledge toward prevention of pressure ulcer were found among nurses attributed to academic qualification. But no significant statistical differences in attitude toward prevention of pressure ulcer among nurses attributed to academic qualification. the holders of Master degree have a higher level of knowledge toward prevention of pressure ulcer than other groups of academic qualification.

Pressure ulcers continue to be a major global health concern, as they are linked to serious consequences and elevated rates of death. These ulcers continue to be important markers of care quality, and the Slovak healthcare system is managed to ng care quality with insufficient advances in prevention. The frequency of pressure ulcers needs to be well-documented, and reporting practices may be weakened to preserve patient perceptions of high-quality care. This study casts doubt on the veracity of claimed incidence statistics by highlighting a worrying lack of awareness and attitudes regarding pressure ulcer prevention. Future initiatives should focus on the prevalence of pressure ulcers, the relevance and application of preventive measures, the knowledge and attitudes of healthcare workers, and the national education system regarding tissue viability and wound care. Finally, no significant statistical differences in knowledge toward prevention of pressure ulcer were found among nurses attributed to place of work or years of experience.

Conclusion

Despite favorable sentiments regarding the significance of pressure injury prevention, our survey shows a sizable knowledge gap in this area among nurses. The participants' desire for additional education and training emphasizes the necessity of formal educational initiatives in this crucial field. Leading their teams in pressure injury assessment and prevention is a responsibility of registered nurses. Implementing focused training can improve understanding and incorporate prevention into regular activities, particularly for individuals providing direct patient care. To determine whether continuing training is beneficial and to make department heads aware of these knowledge gaps, more research is required.

Recommendations

The researchers have the following recommendations: The future researchers should conduct other researches in the same field of this research and should increase the sample to generalize the results. Other samples from other hospitals in Palestine should be included in order to investigate the differences between them. Nursing administrators should explore strategies to improve training quality in order to increase their knowledge and attitude towards PrUs preventive measures in the future.

limitations

Our results cannot be generalized due to the small sample. The small sample of respondents was a limitation. Another limitation is that the participants were from four Palestinian hospitals only. Other research on bigger samples that include other hospitals is needed.

Conflict of Interest Statement

the authors declare no conflicts of interest.

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