ORIGINAL ARTICLE

Knowledge and attitude on pressure ulcer prevention among nursing students in UiTM Selangor Puncak Alam Campus

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Abstract:

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Development of pressure ulcer among patients in healthcare setting can be reduced by improving the knowledge and attitude among nursing students as represented the future generation in prevention of pressure ulcer. This research is aimed to identify knowledge and attitude among nursing students regarding pressure ulcer prevention in UiTM Selangor, Puncak Alam Campus. It also examined the relationships between knowledge and attitude of nursing students related to pressure ulcer prevention. One hundred fifty-seven subjects returned the questionnaires with a 100% rate of response. The respondent was nursing students that studying in UiTM Selangor, Puncak Alam Campus. Study design used was cross-sectional study. The findings revealed that respondent had a very poor knowledge mean 45.4% (SD= 2.362). There was a high score of attitude mean 75.3% (SD=4.597). The finding also found weak correlation between knowledge and attitude (r = .132, p < .01). Nursing students' knowledge on pressure ulcer prevention was very low. However, most of the respondents showed high attitude scores. From these findings suggest that involvement of nursing students from different institutions to improve the generalization of the results.

Keywords: attitude; knowledge; nursing students, pressure ulcer prevention

1. INTRODUCTION

Pressure ulcer was a localized broken to the surface of body or fleshy tissue that underlying which can be open or intact and classified from stage I which is non-blanchable erythema to stage IV represented of full-thickness skin and tissue loss [1]. Pressure ulcer development is associated with the pain, prolonged and expensive hospitalizations, infectious complications, continuing firmly open ulcer will raise the risk of mortality rate and quality of life were reduced [2]. The possibility of development of pressure ulcer would increase because of two main caused which were ischemia and significant uncontrolled amounts of internal strain in grave tissue injury [3]. The recognition of risks leads in adherence and non-adherence for prevention of pressure ulcer principles was accepted to be most essentials to be asking in implementing new insight productively [4].

The progress of a pressure ulcer is caused by prolonging bed-ridden patients and pressure, shear, and friction, and skin moisture [5]. Patients who lie in bed are often related to pressure ulcer [6]. The same pressure from the bone was external pressure with the epidermis inward along the bone was transmitted as well [7]. The extent of the tissue damage was used in classified of a pressure ulcer, which influences the wound healing process and the pressure ulcer staging system [8]. Healthcare physicians should advise patients and caregivers on moisturizers use for the type of dry skin and ensure surface to always dry for those with skins that quickly become sweaty [9]. Neuropathy is responsible for a loss of sensitivity and unable to change position, psychological state and loss of encouragement to involve in care and ageing [10]. Protein-energy malnutrition (PEM) are inter-related with micronutrient malnutrition and the risk of pressure ulcer formation [11]. Other than that, pressure ulcer also caused the risk for infection, prolonged wound healing, declined the quality of life for patients and increased death rate, prolonged hospital stay and pressure ulcer treatments budgets increased [12]. Furthermore, the lower budget of prevention pressure ulcer in the patient than the budget of treatment pressure ulcer [13].

The quality of care indicated by pressure ulcer and an enormous issue for the patient in most health care places [14]. The quality of care was measured by pressure ulcer incidence [15]. However, many health care setting still had a significant problem of pressure ulcers [15]. The most suitable way is looking attentively and quickly to all people that have risk development of pressure ulcer [17]. Inadequate knowledge and poor attitudes have been found to affect the ways of strategies for the prevention of pressure ulcer [18]. Regarding pressure ulcer prevention, nurses need positive attitudes [19]. Recent studies showed that nursing students has low knowledge scores of pressure ulcer prevention [13].

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Several factors represented the relationship between knowledge and attitude regarding the prevention of pressure ulcer. The curricula of nursing and clinical placements should be designed to make sure these problems are adequately solved [20]. Education's level and expose to the clinical environment were significantly related to pressure ulcer prevention knowledge and attitudes [21]. Nursing students' year of education and training experience and exposure to the different department during their clinical practice were related to both the knowledge and attitude [18]. Nursing students with adequate levels of knowledge about pressure ulcer would be more likely to have the right attitude towards pressure ulcer prevention [21]. The objective of this study was to identify the level of knowledge and attitudes among nursing students in UiTM Puncak Alam on pressure ulcer prevention.

2. MATERIAL AND METHODS

2.1 Study Design and Setting

This study was using descriptive quantitative with an approach of cross-sectional study design. The study was conducted at Universiti Teknologi MARA (UiTM) Selangor, Puncak Alam Campus.

2.2 Respondents

Using convenience sampling all Diploma and Degree students was selected in this study. Only nursing student had been attending at least more than 4 weeks of clinical placement are selected because to prevent bias.

2.3 Sample Size

The data was provided from the academic affairs (HEA) of Faculty of Health Sciences. Based on this source, it shows the population size (N) of nursing student full-time mode; diploma and degree semester 4, 5, 6 and 8 is 262. In order to calculate the sample size, Raosoft software had been used with the set confidence interval of 5% and confidence level of 95% to determine the sample size. The minimum recommended size showed for this study (n) is 157.

2.4 Data Collection

Early of March 2019, the process of data collection had been started. All the information regarding the study had been explained clearly to the respondents, in order to obtain student's permission to participate in this study. Other than that, a subject information sheet was given to the respondents. This is also including with consent forms which were attached with the questionnaires for them to fill in. A short briefing was given about the content before the researcher letting the respondents to answer the questions. Overall, the respondent took about 10-15 minutes to complete the questions.

2.5 Data Collection Instruments

Self-administered questionnaire had been adapted from a previous study named Pressure Ulcer Knowledge Assessment Instrument (PUKAT) and Attitude toward Pressure Ulcer Prevention (APuP) [22]. The permission from the original author was granted and the questionnaire were divided into three sections: Section A, Section B and Section C.

Section A is socio-demographic data which 5 items where included which consist of age, gender, level of education, year of study and semester.

Section B is Nursing Students Knowledge Regarding Pressure Ulcer Prevention Questionnaire. For this section, it consists of 26 items multiple choice question reflects on six themes. The score for this section were between 1 and 0. Score 1 indicates correct answer while score 0 for wrong answered. The total score number is 26 then will be convert to percentage and score $\geq 60\%$ was considered to be satisfactory.

Section C is Nursing Student Attitude of Pressure Ulcer Prevention Questionnaire. It is consists of 13 items that measure attitudes and 4-point Likert scales response were used. For this scale item, the coding intervention was given as following: 4 "strongly agree", 3 "agree", 2 "disagree" and 1"strongly disagree". The possible scoring ranged 13 to 52, which 13 indicate lowest score and 52 consider the highest score. The score was convert into percentages and score more than 75% was considered to be satisfactory. The Cronbach's alpha for the original version is 0.88.

3. RESULTS

3.1 Socio-demographic Information

Table 3.1: Socio Demographic Data of Study Population (n=157)

		(11 10)	/	
Demographics		Number	Percentage	Mean(SD)
Characteristics		of	(%)	
		students		
		(n)		
Gender				
Female		145	7.6	
Male		12	92.4	
Age				21.43(1.051)
	20	36	22.9	
(years old)	21	48	30.6	
	22	44	28.0	
	23	28	17.8	
	24	1	.6	

Education level Diploma

Degree		61 96	38.9 61.1	
Year of edu	cation			
Second		71	45.2	
Third & fourth		86	54.8	
Semester	4	71	45.2	
	6	60	38.2	
	8	26	16.6	

3.2 Knowledge

The mean knowledge score was 45.4% (11.81/26). Only 4.5% (7/157) of the respondents got a mean score of \geq 60%. Majority of the students 95.5% (150/157) had a mean score of \leq 60%.

 Table 3.2. Nursing students' answers on 26 total questions regarding prevention of pressure ulcer.

Item	Total % of correct answers	
Theme 1: Etiology and	58.0	
development		
Theme 2: Classification and	44.5	
observation		
Theme 3: Risk assessment	24.2	
Theme 4: Nutrition	63.7	
Theme 5: Preventive measures to	39.0	
reduce the amount of		
pressure/shear		
Theme 6: Preventive measures to	45.1	
reduce the duration of		
pressure/shear		

The lowest total scores achieved on the themes three which is risk assessment (24.2%) and themes five which is preventive strategies to decrease the amount of pressure or shear (39.0%) shown in table 3.2. Analysis of the two items of Risk assessment indicates a high rate of wrong answers questions regarding risk assessment tool questions number one (72.6%) and two, risk assessment of pressure ulcers (79%). For the theme preventive strategies to decrease the total amount of pressure or shear, analysis of these seven things showed increase rate of incorrect answers regarding three questions relating to posture, devices and mattresses for relieving the pressures. Most nursing students in UiTM Selangor did not know to decrease the contact pressure between the body and seat in sitting position (72%), and client sitting in a chair and was sliding down, at the seat, how to reduce pressure (63.7%) and for a patient at risk of developing a pressure ulcers, how to use a viscoelastic foam mattress that can be used for the repositioning (71.4%). Themes: Nutrition (63.7%) got the highest scored. Nursing students mostly knew that proper intake of nutrition could decrease the risk of development of pressure ulcers. For the etiology and development theme, mostly nursing students at UiTM Selangor perceived that risk of pressure ulcers increases caused by (70.1%) and when patients was sitting in bed with a semi-upright position (60°) . In the preventive strategies to reduce the duration of pressure or shear theme, majority of nursing students knew that fewer patients would develop pressure ulcers if patients are mobilized (65.0%).

3.3 Attitude

Majority of students 63.7% agreed that they have the confident in capability to avoid pressure ulcers development and only 17.2% strongly agreed that they were well prepared and trained to avoid pressure ulcer. Approximately half of the students, 52.9% disagreed that pressure ulcers prevention is too tricky. Majority of the students 70.7% strongly disagreed with the statement pressure ulcers prevention is not that important. Minority of the students 10.8% disagreed -that pressure ulcer rarely caused discomfort and uncomfortable for a patient. Minority of the nursing students, 6.4% were strongly agree that the economic or financial impact of pressure ulcers on a patient should not be overdoing. Majority of the students 65.0% were strongly disagree with the statements that I am not having any obligation or to do something if a pressure ulcer develops in my patients. Minority 3.8% strongly disagreed that high-risk patients are preventable in pressure ulcers.

3.4 Relation between Knowledge and Attitude

Since the data not normally distributed, the Spearman correlational analysis used. There were a poor correlation and non – significant relationship between knowledge and attitude (r = .132, p < .01) regarding pressure ulcer prevention (Table 3.4)

 Table 3.4. Correlation Coefficient between Nursing students' Knowledge and Attitude toward Pressure Ulcer Prevention

(n = 157)

	Knowledge	Attitude
Total Knowledge	1.000	.132
Total Attitude	.132	1.000

** p < 0. 01

Spearman's Rank

4. DISCUSSION

More men were less interested in nursing because they have stereotypes that nurses and midwives were naturally feminine [23]. The ranged age of the respondents was 20-23 years old, older adults who had a high level of knowledge and performing their task in applying the knowledge could be better than young adults' performances [24]. Age and attitude had clear evidence that older people reacted by influencing of others either negative or positive opinion due to self-related reactions were changed by ageing [25].

The main crucial problem in this study about the risk assessment toward pressure ulcer on knowledge of nursing students. This showed by the lowest percentage of nursing students answered the questions correctly on the theme of risk of assessment. The right evaluation of attitude toward the prevention of pressure ulcer was important way in recognitions plans to improve [22]. The researcher suggested, lack of knowledge might be related to noncompliance or weak compliance to the guidelines with regard to the following causes: 1) a risk assessment scale might not be accurate to predict the risk of developing pressure ulcers and must be merged with clinical judgment, 2) did not know that higher risk development of new pressure ulcers when a patient has a history of pressure Differ from previous studies, the most crucial ulcers. problem was found that knowledge to reduce the amount of pressure or shear in preventive strategies [18, 21].

Nursing students still had the lowest score of attitudes in some areas in prevention of pressure ulcer. Greatest concern about prevention of pressure ulcer attitude is lack of confidence in effectiveness of prevention. Nursing students that have greater number of clinical practices and year of the study have more confidence [18]. Differ from the previous study, the lower score was on personal competency beliefs [18, 21]. The researcher finding suggested that nursing students had strongly agree about that pressure ulcers were most likely never preventable.

There was a poor correlation between the knowledge and the attitude scores. These indicates that nursing students have high level of knowledge about prevention of pressure ulcer will be have a positive attitude towards pressure ulcer prevention. Similar to other studies that there was a weak correlation between the knowledge and the attitude score [18, 21]. Nursing education syllabus and clinical practice placement provide beneficial in practicing prevention of pressure ulcer so that fresh graduated nurses have the enough information and confidence to manage patient with pressure ulcer.

There is no relationship founded between the knowledge and the attitude regarding prevention of pressure ulcer. This may be because nursing students' attitudes were influenced and taught by the clinical instructor or senior nurses. Therefore, knowledge was not associated with the development of nursing students' attitudes. Thus, this finding was not supporting the statement that the student who have high level of knowledge prone to have a good attitude towards prevention of pressure ulcers [21].

4. CONCLUSION

Knowledge and attitude towards the prevention of pressure ulcers were the most essential in preventing the development of pressure ulcers that can lead complications to patient and decrease the quality of life.

From this study, majority of the students got unsatisfactory for the level of knowledge and the mean level of knowledge was 45.4%. Next, majority of the students got satisfactory for the level of attitudes and the mean level of attitudes was 75.3%. Lastly, there was a poor correlation between knowledge and attitudes.

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