KNOWLEDGE, ATTITUDE AND PRACTICES AMONG NURSES TOWARD NUTRITIONAL STATUS REGARDING GERIATRIC PATIENTS

MUSTAFA MOHAMMAD SHOULI

Assistant Professor, Nablus University for Vocational & Technical Education.

Abstract

Malnutrition is faulty or inadequate nutritional status and considered as one of the main growing issues around the world. It has been demonstrated in several studies that nurses have limited nutritional knowledge and give a low priority to assessing and monitoring a patient's nutritional status. The purpose of this study is to assess the knowledge, attitude and practices among nurses in west bank toward nutritional status regarding geriatric patients, Find out if there is a relationship between demographic data and knowledge, attitude of nurses towards the nutritional status of the elderly and Find out if there is a relationship between demographic data and practice of nurses towards the nutritional status of the elderly . Research design : A cross-sectional descriptive study was used to assess the knowledge, attitude and practices among 150 nurses toward nutritional status regarding geriatric patients, Data were collected using a structured self-administered questionnaire have 27 items, Regarding inferential statistics, the Independent t-test and One Way ANOVA were used to assess the differences between demographic variables in terms of knowledge/attitude and practice mean scores. Results: A total of 76.4 % percent of the nurses had adequate sufficient knowledge and attitude, 23.6% had inadequate knowledge and attitude, and 81% had good practice toward nutritional status among elderly, while 19% had poor practice. A significant difference was found between gender in terms of practice (p=<0.001). There are no significant differences found between age group (p=0.732), gender (p= 0.591), experience (p=0.890) and level of education (p=0.286) in terms of knowledge/attitude score. Furthermore, no significant differences were found between age group (p=0.943), experience (p=0.858) and level of education (p=0.372) in terms of knowledge/attitude score. Conclusion: The nurses showed sufficient knowledge and attitude towards the nutritional status of the elderly, in addition to good

practice. More and stronger studies on this subject during the coming period must be conducted to include all nurses and other hospital workers and get accurate results. Recommendations: Increase the number of training courses and workshops for nurses on nutrition care for the elderly, to enhance their knowledge, attitude, and practice in this field. Increase the number of dietitians in hospitals and clinics, to provide support and guidance for nurses in providing nutritional care for elderly patients.

INDEXTERMS: Knowledge, practice, Attitude, nutritional status, nurse)

NTRODUCTION:

World health organization (WHO) is defined Malnutrition as a faulty or inadequate nutritional status; undernourishment characterized by insufficient dietary intake, poor appetite, muscle wasting and weight loss. Also, malnutrition is a condition that results from eating a diet in which one or more nutrients are either not enough or are too much such that the diet causes health problems (WHO 2016).

Malnutrition in the elderly is considered as one of the main growing issues around the world, it can hinder the healthiness of old people. Poor protein and caloric intake have a major impact on raising the level of infections and death among older inhabitants especially those who live in elderly establishments. Transforming the rules and procedure of institutions gets this group more susceptible to under nourishments. More specifically, it worsens the general wellbeing of older people in our society **[10]**.

Worldwide, malnutrition is a problem that places a financial and other strain on patients, families, hospitals, and the healthcare system. Since many hospitalized patients receive care for a variety of medical issues while having their nutritional needs disregarded, Palestine's quality of nutrition care is deficient and is widely regarded as a challenge. To the best of our knowledge, there is no prior research on nutrition care in Palestine and no information on the prevalence of

malnutrition in hospitalized patients. Even less is known about healthcare professionals' knowledge, attitudes, and practices (M-KAP) regarding nutrition care for hospitalized patients in Palestine, where knowledge of malnutrition is limited to non-hospitalized patients **[13].**

(WHO) reports state that there are no exact statistics of how many older adults worldwide suffer from malnutrition, but available data show that about 15–60 percent of older adults cared for in hospitals, nursing homes and home-care programmes are suffering from malnutrition **[12].** Furthermore, several studies consistently show that more than 40% of hospitalized patients have indications of poor nutrition **[8].** According to a recent review, up to 71% of nursing home residents may be malnourished, which has a substantial impact on patient health outcomes **[2].**

Unintended weight loss is one of the common forms of nutrition deficiency. Mostly progressive symptoms of malnutrition are something which some elderly can feel and report, while the signs of malnutrition are what the caregivers such as nurses or doctors detect. In certain cases, weight reduction is fast and very quickly noticeable. In other cases, drops of weight gradually appear over several periods. Further signs associated with malnutrition are xeroderma (derives from modern Latin, xero- 'dry' + Greek derma 'skin'), eczema, dry hair, broken nails, lesion around mouth, fatigue, nervousness, reduce night sight and aching joints. Likewise, nutrition deprivation can lead to mental problems such as reduction in level of attention and depression [**15].**

Conventionally, "elderly" has been defined as a chronological age of 65 years old or older, However, the evidence on which this definition is based on is unknown **[11].**

The most frequent obstacles to implementing adequate nutritional practices are referred to lack of knowledge, lack of interest, and negative attitudes towards nutrition, Nursing staff members are among those in the best positions to provide sufficient nutrition, so their understanding of malnutrition and attitudes toward it are crucial to the delivery of nutritional care

in nursing homes **[2].** Furthermore, it has been reported that the poor nutritional status of patients can be a result of poor skills and/or tools (methods) for recognizing malnourished patients or those at risk of malnutrition **[7].** It has been demonstrated in several studies that nurses have limited nutritional knowledge and give a low priority to assessing and monitoring a patient's nutritional status **[8].** Even though nurses can play many roles in the prevention of malnutrition, the reviewed articles say nurses still need more competency to effectively recognize nutritional problems among elderly. Also, Considering and teaching the elderly on their various dietary needs is crucial to prevent malnutrition. So, it is significant to get more nutritional education and training for nurses to strengthen their nutritional knowledge and competency to effectively assess nutritional problems and to prevent malnutrition in elderly care settings **[10].**

Significance of study

It is the second study in Palestine that worked to measure the knowledge, attitude and practice of the nutritional status of the elderly on the medical staff, and the first on the nursing only. In addition to create a database that will assist researchers in future studies.

METHODS:

1. Study Design

A cross-sectional descriptive study was used to assess knowledge, attitude and practices Nurses are nutritional status regarding geriatric patients.

2: Study setting and study time

The study was carried out in West Bank on government and private hospitals, from March 2023 to April 2023.

3. Population

The current study's population included any nurses in hospitals who worked with the elderly (more than or equivalent to 65 years) in the West Bank, the total number of nurses in 2021 is 11,494 nurses in the West Bank.

4. Sampling and sample size

Convenience sampling was used to collect the sample for this study, and the total sample size was calculated using a margin of error of 5% and a confidence level of 95% with a total population of more than 11,494, yielding 150 subjects, adding 24% to avoid non-evaluable subjects, The current study had a total sample size of 120 subjects.

5. Data collection tool

The researchers used a questionnaire that contained three sections:

1. Demographic data, which such as age, level of education, gender, years of enrolling in university and faculty.
2. Knowledge and attitude (KA) questions had the same response categories and were treated in the same way conceptually and for scaling as it is difficult to distinguish between what is known and what is believed this part is Likert's scale, categories included Strongly Disagree, Somewhat Disagree, Neutral, Somewhat Agree, and Strongly Agree, the mean score was 92/128 (Range 63–114).
3. For the practice questions (P), a four-point scale was deemed appropriate and responses included Never, Sometimes, Often, and Always. The draft questionnaire was reviewed independently by eight experts in the field.

6. Data collection

Data was collected using a Google Form in Arabic language to increase the response rate, the form were distributed to nurses on hospital by social media sites like Facebook and WhatsApp, The nurses who were interested in participating in the study were invited to fill out the online questionnaire, all the participants' responses were stored in an online database that only the authors could access and download from Google form. The data were summarized in tables, excluding the nurses who answered (no) to the question (Have you ever performed the nursing in your workplace for a patient who reached the age of 65 years or more?

7: Validity and reliability of data collection tool

Previous questionnaire was used from Laur et al (2016) study, which was done in Canada, in this study, the knowledge/attitude (KA) and the practice (P) subscales are reliable (KA: Kappa and Intraclass Correlation (ICC))= 0.69 = 95% (CI 0.45–0.84)

P: ICC = 0.84 = 95% (CI 0.68−0.92).

8. Data analysis

The collected data was analyzed by the Statistical Package for Social Sciences (SPSS) Version (28). Data entry was performed and double-checked for outliers or errors. Data was tested for normality using the Shapiro-Wilk test, which shown that the scores are normally distributed (p=> 0.05).

Data analysis of descriptive and inferential statistics was conducted. Regarding descriptive statistics, frequency, percentages, mean score and Standard Deviation (SD) were used to describe the study variables. The Min score is 1 and the Max score is 5, higher mean scores mean higher knowledge/attitude score and the Min

score is 1 and the Max score is 4, higher mean scores mean higher knowledge/attitude score.

Regarding inferential statistics, the independent t-test and One Way ANOVA were used to assess the differences between demographic variables in terms of knowledge/attitude and practice mean scores.

9. Ethical Considerations

1. Institutional Review Board (IRB) obtained from Modern University College (MUC).
2. Adherence to participant autonomy, confidentiality of information, and anonymity.
3. Subjects' agreement to participate in our electronic Google form for questionnaires.

10. Inclusion/exclusion criteria

1. Every nurse who answered the question that says (Have you ever practiced the nursing profession on a patient of 55 years or more with a no) was excluded, and everyone who answered with a yes was included.
2. The questionnaire was not published in the emergency and pediatric departments.

Results:

Table 1: Socio-demographic variables among nurses (n=120)

Demographic variables		n	%
Age group	22-27 years old	40	33.3%
	28-33 years old	31	25.8%
	34-41 years old	36	30.0%
	>41 years' old	13	10.8%
Gender	Male	40	33.3%
	Female	80	66.7%
Level of education	Diploma	42	35.0%
	Bachelor's Degree	71	59.2%
	Master Degree or PhD	7	5.8%
Experience as a nurse	<2 year	30	25.0%
	2-5 years	31	25.8%
	>5 years	59	49.2%

Table 1 presents the demographic variables toward nurses. Out of 150 nurses, 120 were enrolled given a response rate 80%. 33.3% of nurses were aged 22-27 years old, 30% were 34-41 years old. More than two-thirds of nurses were female with 66.7%. More than half of nurses have 2-5 years of nursing experience. Closed to half of nurses held a master's degree.

Table2: Mean score for each item toward knowledge/attitude of nutrition care (n=120)

Item	Mean	SD	%
1. Nutrition is not important to every patient's recovery in hospital*	4.27	.978	
2. All patients should be screened for malnutrition at to hospital	4.16	.748	83.20%
3. A patient's weight should be taken at admission	4.40	.666	88.00%
4. All staff involved in patient care can help set up the tray, open packages, etc	3.38	.997	67.60%
5. All staff involved in patient care can provide hands-on assistance to eat when necessary	3.95	.760	79.00%
6. Malnutrition is a high priority at this hospital	3.74	.930	74.80%
7. Giving malnourished patients an adequate amount of food will enhance their recovery	4.34	.750	86.80%
8. All malnourished patients require individualized treatment by a dietitian*	1.87	.875	37.40%
9. I have an important role in promoting a patient's food intake	4.06	.718	81.20%
10. Monitoring food intake is a good way to determine a patient's nutritional status	4.03	.647	80.60%
11. Interruptions during the meal can negatively affect patient food intake	3.76	.785	75.20%
12. Promoting food intake to a patient is every staff member's job	3.70	.911	74.00%
13. Nutritional care of a patient is only the role of the dietitian*	3.35	1.050	67.00%
14. Malnourished patients who are discharged need follow up in the community	4.13	.620	82.60%
15. A patient's weight is not necessary at discharge*	3.75	.881	75.00%
16. I always know when to refer to a dietitian	3.95	.731	79.00%
17. I know how to refer to a dietitian	3.90	.660	78.00%
18. I know when a patient is at risk of malnutrition or is malnourished	3.90	.627	78.00%
19. I know some strategies to support food intake at meals	3.95	.627	79.00%
20. I need more training to better support the nutrition needs of my patients	3.81	.849	76.20%
Total Mean Score (20 items)	**3.82**	**.266**	**76.4%**

**Reversed items*

Mean score over 5

Table 2 illustrates the mean score for each item toward knowledge/attitude of nutrition care. The highest knowledge/attitude items by nurses were that patient's weight should be taken at admission and importance of nutrition to patient's recovery in hospital with M=4.40 and M=4.34 respectively. However, nurses reported lowest knowledge/attitude toward all malnourished patients require individualized treatment by a dietitian with M=1.87.

Table 3: *Mean score for each item toward practice of nutrition care (n=120)*

Item	Mean	SD	%
1. Nutrition is not important to every patient's recovery in hospital*	3.46	.721	86.5%
2. All patients should be screened for malnutrition at admission to hospital	3.29	.782	82.25%
3. A patient's weight should be taken at admission	3.37	.850	84.25%
4. All staff involved in patient care can help set up the tray, open packages, etc.	3.01	.978	75.25%
5. All staff involved in patient care can provide hands-on assistance to eat when necessary	2.86	.906	71.5%
6. Malnutrition is a high priority at this hospital	3.34	.783	83.5%
7. Giving malnourished patients an adequate amount of food will enhance their recovery	3.35	.838	83.75%
Total Mean Score (7 items)	**3.24**	**.5927**	**81%**

Mean score over 4

Total Practice	Frequency	Percent
1 - 1.75 Never	3	2.5
1.76 - 2.51 Sometimes	9	7.5
2.52 - 3.27 Often	41	34.2
3.28 - 4 Always	67	55.8

Table 3 illustrates the mean score for each item toward practice of nutrition care. The highest practice items by nurses were that Nutrition is important to every patient's recovery in hospital and patient's weight should be taken at admission with M=3.46 and M=3.37 respectively. However, nurses reported lowest practice toward all staff involved in patient care can provide hands-on assistance to eat when necessary, with M=2.86.

Table 4 Differences between demographic variables in terms of knowledge and practice sum scores (n=120)

Demographic variables		Knowledge and attitude				Practice			
		n	Mean	SD	P-value	n	Mean	SD	P-value
Age group	22-27 years old	40	77.17	4.711		40	22.90	4.738	
	28-33years old	31	75.96	5.449		31	22.77	3.792	
	34-41years old	36	76.77	4.529	.732	36	22.69	4.328	.943
	>41 years old	13	76.00	5.369		13	22.07	2.564	
Gender	Male	40	76.27	5.491		40	20.85	3.984	
	Female	80	76.78	4.596	.591	80	23.65	3.930	<.001*
Experience as a nurse	<2 year	42	76.76	5.43615		42	23.00	3.888	
	2-5 years	71	76.46	4.31883	.890	71	22.54	4.335	.858
	>5 years	7	77.28	7.409		7	22.71	4.231	
Level of education	Diploma	30	77.53	4.569		30	23.63	3.934	
	Bachelor's Degree	31	77.06	4.523		31	22.29	4.886	
	Master degree or PhD	59	75.91	5.207	.286	59	22.47	3.825	.372

Independent t-test and One Way ANOVA tests** ***Significant at p=<0.05

Table 4 presents the differences between demographic variables in terms of knowledge and practice sum scores. Independent t-test and One Way ANOVA tests were used to assess the differences between variables. There are no significant differences found between age group (p=0.732), gender (p= 0.591), experience (p=0.890) and level of education (p=0.286) in terms of knowledge/attitude score. Furthermore, no significant differences were found between age group (p=0.943), experience (p=0.858) and level of education (p=0.372) in terms of knowledge/attitude score. However, a significant difference was found between genders in terms of practice (p=<0.001). This means female's nurses have more practice toward nutrition care higher than male nurses.

Figure 1: presents that 90% of nurses have adequate knowledge toward nutrition care, while the rest have not

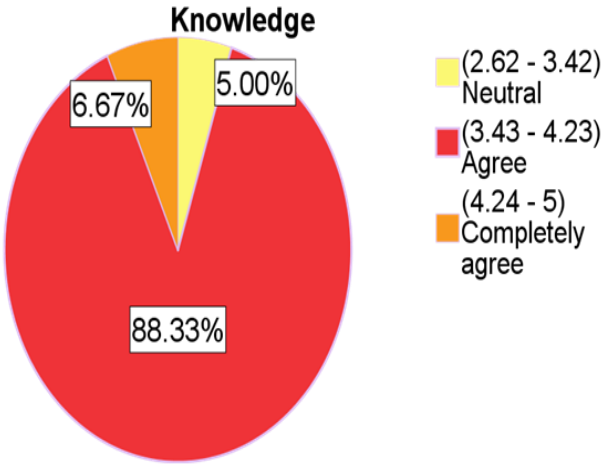
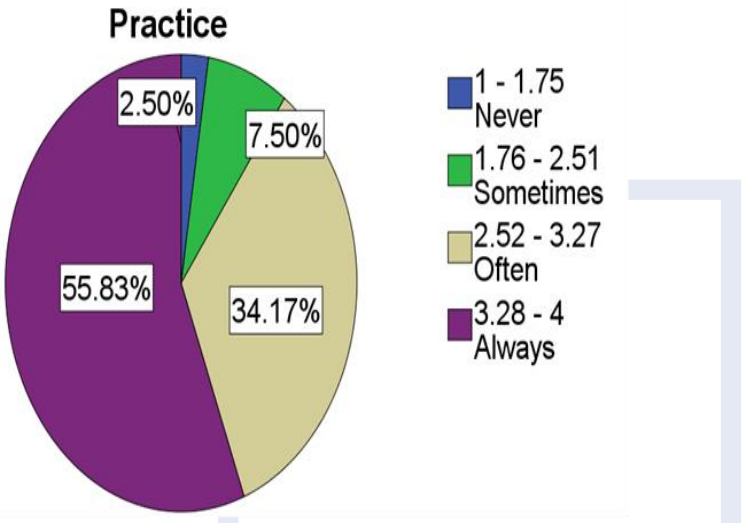


Figure 2 presents that 95% of nurses have good practice toward nutrition care, while the rest have poor practice.



95% of nurses have good practice toward nutrition care

DISCUSSION:

The study examined the knowledge, attitude and practice of nurses towards the nutritional status of the elderly in Palestinian hospitals, specifically in the West Bank. The highest percentage of respondents were in the 22-27 age group, and those with less than five years of experience. 90% of nurses have adequate knowledge toward nutrition care, while the rest have not. 95% of nurses have good practice toward nutrition care, while the rest have poor practice. These findings contrast with the results of a study by **[13]** who found that nurses had insufficient knowledge. Although both studies used the same questionnaire, the difference in results may be due to regional differences. The current study was conducted in the middle, south, and north of the West Bank, while **[13]** study was conducted in the north of the West Bank and included a larger sample of both nurses and doctors (405). It is important to note that the current study only included nurses (with a sample size of 120). The nurses in this study had the highest level of knowledge and attitude about taking a patient's weight at admission, with 86.80% answering correctly. This percentage is higher than the 69% found in a study by**[9]**, although the highest percentage of correct answers in that study was not the same as in this study. In this study, the highest percentage of correct answers was for question No. 1, which stated that nutrition is important to every patient's recovery in hospital, with 88% of nurses answering correctly. The lowest percentage of correct answers in Laur's study was for question No. 8, which stated that all malnourished patients require individualized treatment by a dietitian, with a 2% correct answer rate. This finding is consistent with the results of this study, as the lowest percentage of correct answers was also for question No. 8, although the correct answer rate was higher at 37.40%.The highest percentage of correct answers

in terms of practice was giving malnourished patients an adequate amount of food will enhance their recovery.

In terms of the practice of nutrition care, the highest percentage of respondents in this study disagreed with the statement that nutrition is not important to every patient's recovery in the hospital, with a response rate of 86.5%. In **[9]** study, the highest percentage of correct answers was for the second question, which stated that all patients should be screened for malnutrition at admission to the hospital, with a correct answer rate of 43%. The lowest percentage of correct answers in Laur's study was for the seventh question, which stated that giving malnourished patients an adequate amount of food would enhance their recovery, with a correct answer rate of 7%. In contrast, the percentage of correct answers for the seventh question in this study was high at 83.75%. The lowest percentage of correct answers in this study was for question No. 5, which stated that all staff involved in patient care can provide hands-on assistance to eat when necessary, with a correct answer rate of 71.5%. This contrasts with the study mentioned earlier, where the correct answer rate for this question was only 20%.

The analysis showed that there were no significant differences between age group, gender, experience, and level of education in terms of knowledge/attitude score. However, there was a significant difference between gender in terms of practice, with female nurses having higher practice scores in nutrition care than male nurses. These results differ from the findings of **[13]** who found a significant association between age and knowledge, but no significant association between gender, type of hospital, job title, and years of experience. The difference in results could be due to the different regions studied, with this study covering the middle, south, and north of the West Bank, and the smaller sample size of only nurses in this study.

The results of the study contradict the study of (Shaker) in terms of knowledge, behavior and practice, and this may be due to several reasons that we summarize in the form of points,

1- The sample included in our research was made up of nurses only, while Shaker's study consisted of nurses and doctors.
2- Our study included several areas in the West Bank from the north, center and south, while Shaker's study included only the northern areas.
3- The sample collected in our study was small (120), while the sample in Shaker's study was larger (405).

Also, on the other hand, many studies, some of which we mentioned in the literature review, their results agreed with what our study showed, as it agreed with the studies in Italy **[1]**Austria **[2]** and in Korea for **[8].**

Conclusion

This study provides insights into the knowledge, attitude, and practice of nurses towards the nutritional status of the elderly in Palestinian hospitals, specifically in the West Bank. The results indicate that most nurses had sufficient knowledge and attitude towards nutrition care, but there were still some areas where improvement is needed, particularly in individualized treatment for malnourished patients. Additionally, there were no significant differences between demographic variables in terms of knowledge/attitude scores, except for gender, where female nurses had more practice towards nutrition care than male nurses. These findings can be used to inform interventions and training programs to enhance the quality of care provided to elderly patients in Palestinian hospitals.

Recommendations:

Increase the number of training courses and workshops for nurses on nutrition care for the elderly, to enhance their knowledge, attitude, and practice in this field. Increase the number of

dietitians in hospitals and clinics, to provide support and guidance for nurses in providing nutritional care for elderly patients. Develop and implement clear guidelines and protocols for nutrition care for the elderly, to ensure that all patients receive adequate and appropriate nutritional support. Encourage interdisciplinary teamwork between nurses, doctors, and dietitians, to provide comprehensive care that addresses the nutritional needs of elderly patients. Conduct further research in this area, using larger sample sizes and including healthcare providers from a variety of healthcare settings, to better understand the knowledge, attitudes, and practices of healthcare providers towards nutrition care for the elderly.

Competing interests:

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

. Authors' contributions: Corresponding author design of the study, data collections, writing the manuscript and agree to accept the responsibility for the accuracy of this paper. approved the final article.

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