

Knowledge and Attitude of Nurses toward Geriatric Palliative Care

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1. ABSTRACT

Background: Palliative care is a vital and imperative need designed to relieve suffering and improve the quality of life for elderly patients. One of the key elements influencing the success of palliative care is the knowledge and attitude of the nurses. **Aim:** Assess knowledge and attitude of nurses towards geriatric palliative care. **Method:** A descriptive, cross-sectional study was utilized with a convenient sample of 275 nurses. **Setting:** This study was conducted in medical and surgical departments in Oncology Center and Specialized Medical Hospital that both are affiliated to Mansoura University. **Tools:** Three tools were used, demographic data structured interview questionnaire, Palliative Care Quiz for Nursing and Frommelt Attitude toward the Care of the Dying (form B). **Results:** The mean age of the studied nurses was 33.5 ± 5.9 years. Females were more prevalent in the studied nurses, less than half of them had technical degree. Majority of them cared of a dying elderly person before. Less than half of them attended courses about elderly care while only (6.9%) of them attended training program on palliative care. **Conclusion:** More than half of studied nurses had fair knowledge and most of them had positive attitude towards geriatric palliative care and a statistical positive correlation was found between nurses' knowledge and their attitude towards geriatric palliative care. **Recommendations:** Simple geriatric palliative care booklet should be designed and distributed to all nurses at Mansoura University Hospitals and Centers through responsible personnel.

Keywords: Knowledge, Attitude, Nurses, Geriatric, Palliative Care

2. Introduction:

Palliative care is the science of improving elderly patients' quality of life. It helps to reduce suffering from terminal illnesses that are life-threatening by detecting them early, accurately assessing them, and treating pain and other issues ¹.

Palliative care is now a fast expanding specialty that is provided to the majority of patients in large hospital systems. Palliative care is now available in 90% of hospital systems with more than 300 beds and 67% of institutions with more than 50 beds offer palliative care programs².

As life expectancy has increased, so has the elderly population in Egypt; it is anticipated that 12.3% of the country's population would be over 65 by 2050. As a result, there will be an increase in chronic and degenerative diseases that cause advanced illness. Palliative care will be required more and more as chronic and degenerative diseases proliferate. ³.

Over 29 million people died from illnesses requiring palliative care globally. There were 20.4 million people who, according to estimates, needed palliative care at the end of their life. 94% of the people in need of palliative care are adults, and 69% of these people are older than 60 years. 78% of those in need of palliative care live in nations

with low and moderate income countries. Globally, palliative care is required for 40–60% of all deaths⁴.

Palliative care is becoming necessary due to the world's ageing population, chronic non-communicable diseases, and terminally ill diseases ⁵. In addition, at this time, deaths related to COVID-19 pandemic has led to increased needs for palliative care. So health and social care teams will need to provide appropriate services for elderly patients and they must ensure the availability of palliative care provided to them ⁶.

Palliative care includes the period of time from the onset and course of the chronic illness, through its terminal stages, and right up to death. It is a team effort that integrates many managements, especially the medical and spiritual management. It can be administered anywhere, including a patient's home, a healthcare center, a hospice unit, an outpatient clinic, and a day care facility. ⁷.

Palliative care aims to maintain the highest quality of life for as long as possible while also addressing the emotional, physical, and social needs of the elderly patient and their caregivers. Palliative care focuses on providing elderly patients with compassionate care to lessen their suffering

rather than delaying or hastening death. Modern healthcare facilities are increasingly utilizing palliative care, particularly for end-of-life care. Health care organization all over the world have implemented a number of standards to enhance palliative care.^{8,9}

An effective palliative care practice is influenced by a number of factors. These include the knowledge, attitude and prior experiences of healthcare workers. Nursing care requires a basic understanding of palliative care. The care that nurses are able to give may also be influenced by their attitude toward death and patients who are dying. Flexibility in interpersonal interactions, a willingness for open dialogue about important topics, and a psychological openness toward patients and the relatives of those who are dying are considered as the ideal attitudes for providing palliative care. These elements might affect how medical personnel behave when assessing and caring for older patients.¹⁰

Gerontological nurses are crucial for the elderly patients receiving palliative care. They play a crucial part in reducing the suffering of those who are dealing with the effects of illness and who are dying as a result of the condition. They spend more time with patients and their families, supporting communication, assisting with the resolution of a variety of complicated emotional and practical issues, providing information and guidance about therapies, and also providing experience in managing pain and other uncomfortable symptoms.¹¹

Good knowledge and positive attitude among nurses are crucial for providing palliative care successfully¹². Gerontological nurses that are knowledgeable, skillful and at ease giving palliative care could improve the well-being and contentment of patients and their families in hospital environments¹³.

2.1 Aim of the study

This study aimed to assess knowledge and attitude of nurses towards geriatric palliative care.

2.2 Research questions:

- Q1: What is the level of nurses' knowledge towards geriatric palliative care?
- Q2: What is the nurses' attitude towards geriatric palliative care?

3. Method

3.1 Study Design:

A descriptive, cross-sectional study was utilized to accomplish the aim of this study.

3.2 Setting:

This study was conducted in medical and surgical departments in Oncology Center and Specialized Medical Hospital that both are affiliated to Mansoura University. Each department in oncology center includes 40 beds, it receives approximately 8-10 patients every week. Surgical department provides preoperative and postoperative care to cancer patients, but medical department gives chemotherapy to them. On the other hand, Specialized Medical Hospital consists of one department and two units (cardiology department in the second floor and gastroenterology unit in the third floor and diabetic and endocrinology unit in the fourth floor, which consists of four rooms each one containing 10 beds).

3.3 Subjects:

This study included a convenience sample of 275 nurses who worked at the previous settings and worked with elderly patients' part time or full time for at least 6 months and accepted to participate in the study.

3.4 Tools of data collection:

Three tools were utilized for data collection:

Tool I: Structured Interview Questionnaire

This tool was developed by researcher after reviewing the relevant literature. It included data such as nurses' age, gender, qualification, marital status, residence, income, years of working experience, previous attendance of courses about elderly care, previous caring of dying elderly persons and attendance of training program on palliative care.

Tool II: Palliative Care Quiz for Nursing (PCQN)

This tool was adopted from (M. Ross, McDonald & McGuinness, 1996)¹⁴. It is a self-administered questionnaire. The PCQN used 20 objective questions with the answers "True," "False," and "Don't Know" to assess nurses' basic knowledge of palliative care. It consists of 20 items, which are divided into the following conceptual content categories: (a) palliative care philosophy and principles; (b) psychosocial elements of care; and (c) management of pain and other symptoms.

Scoring system:

The knowledge was assessed as follows: Each question had three possible answers; the correct answer received a grade of 2, the incorrect answer received a grade of 1, and I don't know response received a score of 0. Correct answers were grouped to get a final score for each nurse.

Total score for all questions was 40 grade. The knowledge scores were divided into

- Good knowledge: ≥ 30 grade ($\geq 75\%$),
- Fair knowledge: 20 - < 30 grade (50% - $< 75\%$)
- Poor knowledge : < 20 grade ($< 50\%$)

Tool III: Frommelt Attitude toward the Care of the Dying form B (FATCOD-B)

It was a psychometric tool adopted from (Frommelt, 1991)¹⁵. The self-report FATCOD-B scale was a paper and pencil questionnaire with 30 items that are randomly ordered. Participants are asked to rate each item's level of agreement on a scale from agree to disagree. One third of the items are directly related to nurses' attitudes about the patient's family members, while the other third of the items are directly related to nurses' attitudes toward the dying patient. The items are divided into categories including cognitive domain (12 items), affective domain (9 items), and items of dying patient's family (9 items).

Scoring system:

The FATCOD-B tool consists of 30 Likert-type items, each of which is rated on a three-point scale from 1 (disagree), 2 (uncertain), and 3 (agree). The final grade for all questions was 90. The attitude scores were classified into

- Positive attitude: ≥ 45 grade ($\geq 50\%$)
- Negative attitude: < 45 grade ($< 50\%$).

3.5 Data collection process:

Phase I: Preparatory phase: -

- 1) The directors of the Oncology Center and Specialized Medical Hospital at Mansoura University were given a formal approval letter from the dean faculty of nursing, Mansoura University at that institution to get their consent for data collection.
- 2) The directors and head nurses of the two hospitals were informed by the researcher about the aim of the study and the time of data collection to obtain their approval to perform the study.
- 3) Tool I (Demographic Data Structured questionnaire) was developed by the researcher based on review of related literatures.
- 4) Tool II (Palliative Care Quiz for Nursing (PCQN)) and Tool III (Frommelt Attitude toward the Care of the Dying form B (FATCOD-B)) were translated into Arabic language by the researcher. Validity of the translation was checked by an expert of English language from the Faculty of

Education. To ensure the validity of the translation, back up translation technique was used in this study.

- 5) The content validity of the study tools was examined by a jury of nine experts in the fields of gerontological nursing Mansoura University. Accordingly, their recommended modifications were done and the final forms were used for data collection.
- 6) Reliability was tested by means of Cronbach Alpha test (internal consistency) that the knowledge domain was 0.893, and the attitude domain was 0.901.
- 7) A pilot study was conducted on 10% of the participants (28nurses) from the same mentioned setting before starting data collection to check and confirm applicability of the study tools and the necessary modifications were done. These nurses were excluded from the study sample and the results of the study.

Phase II: Operational phase

- The researcher started data collection when the necessary approval was obtained.
- The researcher visited medical and surgical departments at Oncology center 2 days per week (Sunday and Monday), and the researcher visited Specialized Medical Hospital 2 days per week (Wednesday and Thursday).
- The researcher started the interview by introducing herself to the nurses and giving them brief idea about the aim of the study. Then, the necessary data were collected using the study tools.
- The researcher assessed nurses' knowledge and attitude towards geriatric palliative care using tool II and tool III, distributed the questionnaire to the nurses for completion and collect it after the nurses complete it using tool (II and III).
- Each nurse spent between 15 and 20 minutes filling out the study tools.
- The data collection covered the period of three months from December 2021 to February 2022.

3.6 Ethical Considerations:

An ethical approval was taken from the Research Ethics Committee of the Faculty of Nursing – Mansoura University. Each participant in the study was given detailed information about the purpose of the study before receiving their written

informed consent. The study's objective was the only use for the data, and the study subjects' privacy and confidentiality were also guaranteed. Each subject was assured that the participation is voluntary, and they were assured that they might quit the study at any moment and there would be no repercussions or penalties

3.7 Data analysis:

SPSS for Windows version 23.0 (SPSS, Chicago, IL) was used to conduct all statistical analyses. Continuous data were reported as mean standard deviation (SD) and had a normally distributed distribution. Numbers and percentages were used to express categorical data. Pearson's correlation was used to find correlation coefficient (r) between two quantitative variables. One-way analysis of variance (ANOVA) was used for comparison among more than two for variables with continuous data. The Student's t test was used to compare the means between two groups. The difference was determined significant at $P \leq 0.05$.

4. Results

Table(1): Shows demographic characteristics and professional data of the studied nurses. The age of the studied nurses ranged from 30 to less than 35 years with mean 33.5 ± 5.9 years. Females were more prevalent in the studied nurses, they constituted 87.3% while 12.7% only were male. Regarding qualification, 43.6% of the studied nurses had technical degree while only (3.6%) of them had postgraduate studies. Concerning place of work, 81.8% of them worked in specialized medical hospital while only (18.2%) of them worked in oncology center. As regard to the years of experience, the study shows 52.7% of nurses had experience more than 10 years while 21.5% of them had experience from 5 to less than 10 years. In addition, regarding years of experience of caring for elderly, 41.5% of the studied nurses had experience more than 10 years and 37.8% of them had experience from 1 to less than 5 years while 20.7% of them had experience from 5 to less than 10 years.

Table (2): shows the relationship between the total knowledge score and the demographic and professional information of the nurses under study. The total knowledge score of nurses and their place of employment as well as their years of experience caring for old people were shown to be statistically significantly correlated ($p < 0.001$). Additionally, this table demonstrates a statistical relationship between knowledge and age, years of experience, and participation in a training programs for

palliative care ($p=0.002$, $p=0.003$, and $p=0.002$ respectively). There was no statistical correlation between nurses' overall knowledge and gender, education, married status, income, experience caring for senior family members, prior attendance at courses about elderly care, or prior care of elderly patients ($p > 0.05$).

Table 3: shows the relationship between the overall attitude score and the demographic and professional information of the nurses under study. It was found that the total attitude score of nurses was significantly correlated with age, place of employment, years of experience, and years of experience caring for old people ($p < 0.001$). This table also demonstrates a statistical relationship between knowledge and gender, qualification, income, and prior caregiving for old people who were dying ($p=0.040$, $p=0.036$, $p=.017$, & $p=0.041$, respectively). While there was no statistical correlation between nurses' overall attitude score and marital status, place of residence, experience caring for elderly family members, prior attendance at courses about elderly care & participation in training programs on palliative care ($p > 0.05$), there was a correlation between nurses' overall attitude score and residence.

Figure (1): Shows experience of the studied nurses about caring and attendance of courses about elderly and palliative care. 69.1 % of studied nurses had experience of caring for elderly family member. 81.1% of them cared of a dying elderly person before. Less than half 45.1% of them attended courses about elderly care while only 6.9% of them attended training program on palliative care.

Figure (2): shows level of knowledge of the studied nurses towards geriatric palliative care. It appeared that 54.9% of the studied nurses had fair knowledge while 35.6% had poor knowledge and 9.5% had good knowledge.

Figure (3): shows attitude of the studied nurses towards geriatric palliative care. It revealed that 89.8 % of the studied nurses had positive attitude while only 10.2% had negative attitude.

Figure (4): explains the relationship between the overall attitude score and the overall knowledge score. The total attitude and total knowledge scores of nurses regarding geriatric palliative care appeared to be positively correlated.

5. Discussion

Palliative care is a significant public health concern due to population ageing, the rise in the

number of older people worldwide, and the neglect of their complex needs ¹⁶. A vital component of palliative care is nursing. Although nurses play a big part in providing palliative care, they must be trained and educated in it in order to accomplish the desired outcomes. Consequently, it is essential that nurses have good knowledge and a favorable attitude towards palliative care ¹⁷.

The demographic background of the current study showed that, age of studied nurses ranged from 30 to less than 35 years with mean of 33.5 ±5.9 years. This result is in the same line with a study done in Iran by Paknejadi, Hasavari, Mohammadi and Leili (2019)¹⁸ who revealed that mean age of majority of their studied nurses was 33.90±7.20 years. Another study done in Rwanda by Karikwera (2017)¹⁹.who revealed that majority of the studied nurses were in the group aged 31-35 years.

Regarding sex, the result of this study showed that majority of nurses were females. This result may be attributed to the majority of nurses in Egypt are females and the number of female nurses are greater than males in nursing fields and males have enrolled in the field of nursing in recent years only. This result is supported by a study done in Mongolia by Kim, Kim and Gelegjamts (2020)²⁰ who revealed that most of their respondents were female nurses. Also, study done in Ethiopia by Gedamu, Berhane, Dires, Anteneh and Goshiye (2019)²¹ who found that more than half of the studied nurses were females.

As regards to level of education, the present study revealed that less than half of the studied nurses had technical institute. This is in accordance with studies done in Egypt by Mohamed & Ibrahim (2021)²² and Moneir, El Ganzory, Abdelhamed and Ahmed (2021)¹¹ who revealed that majority of nurses had technical institute. But this result contradicted with study done in Pakistan by Parveen, Sultana, Waqas, Tasneem & Jabeen, (2020)²³ who revealed that majority of nurses had a nursing diploma. Also studies done in Korea by Kim, Lee and Kim (2020)¹³ and in Ethiopia by Anteneh, Kassa, Demeke and Guadu (2016)²⁴ who revealed that majority of study held bachelor's degrees.

Regarding years of experience, the result of this study reported that half of the studied nurses had experience more than 10 years. This result agreed with the result of study done in Congo by Mukemoet al. (2017)²⁵. This result may be explained by most of the studied nurses had technical institute and worked for a long time.

Concerning experience of caring for elderly family member, the current study showed that more than two thirds of studied nurses had experience. This result was in agreement with the result of study done in Saudi Arabia by El Azazey et al. (2019)²⁶. In contrast, a study done in Iran by Paknejadi, Hasavari, Mohammadi and Leili (2019)¹⁸ who revealed that most of studied nurses had no experience of caring for elderly family members. This result may be due to most of the studied nurses had technical institute and worked for a long time.

Majority of nurses in this study didn't attend training program on palliative care. This may be due to lack of continuing training or lack of in service training courses on palliative care or the shortage of professional trainers. Also, it may be due to lack of motivation, shortage of staff nurses, lack of nurses' time to attend palliative training because of work overload, role confusion and lack of interest of the nurses to attended training courses on palliative care. Also, nurses may feel that training courses have little or no value for them and not have any beneficial benefits on their income.

This finding was consistent with research conducted in Egypt by Metwaly and Hamad (2019)²⁷ and Mohamed and Ibrahim (2021)²² which showed that the majority of the nurses under study had not participated in palliative care training. A study conducted in Palestine by Ayed, Sayej, Harazneh, Fashafsheh, and Eqtaït (2015)²⁸ found that more than half of the sample had taken a training course in palliative care. The majority of the study sample had bachelor's degrees, which is what caused this discrepancy.

This study showed that more than half of studied nurses had fair knowledge and more than third of them had poor knowledge towards geriatric palliative care. This could be as a result of a lack of up-to-date information about palliative care, the fact that the hospital did not regularly carry out a palliative care education program, or the fact that the nurses are overworked at the bedside due to a shortage of nursing staff and have little time to improve and update their knowledge about palliative care or attend training sessions about it.

The current study is in the same line with study done in Rwanda by Karikwera (2017)¹⁸ who revealed that more than half of studied nurses had fair knowledge. Also, study done in Yemen by Al-Falahi, Haza'a & Al-Qalah (2022)²⁹ who revealed that more than half of intensive care unit nurses had fair knowledge towards palliative care. On the other hand a study done in Saudi Arabia by El

Azazey et al. (2019)²⁶ who reported that more than half of studied nurses had good knowledge of palliative care. This variation could be attributed to majority of their studied nurses had bachelor's degree and worked in different palliative care words.

The result of this study revealed that the majority of studied nurses have positive attitude towards geriatric palliative care. This result could be attributable to the nurses' experience in caring for terminally ill patients. The study also showed that studied nurses chosen working in the inpatient departments had strong association and daily contact with chronic illnesses patients compared to outpatient departments and also the cultures difference in Egypt from other countries especially in the terms of sympathy with terminally ill patients. So nurses may have developed favorable attitude towards palliative care.

This study result is in the same line with studies done in Nigeria by Anyanwu & Agbedia (2020)¹⁰, in Rwanda by Kanyamuhunga, Uwamaliya & Unyuzumutima (2021)³⁰, revealed that majority of studied nurses had positive and favorable attitude towards palliative care.

In contrast, a study done in Yemen by Al-Falahi, Haza'a & Al-Qalah (2022)²⁹ revealed that most of studied nurses had negative attitude towards palliative care for non-cancer patients.

The current study found a highly statistically significant association between nurses' expertise and their place of employment and their years of experience providing care for the elderly. Additionally, this finding demonstrates that there was a statistical association between knowledge and age, experience's years, and participation in a training program on palliative care.

This finding is consistent with a study conducted in Palestine by Ayed, Sayej, Harazneh, Fashafsheh, and Eqtait (2015)²⁸, which found a substantial correlation between years of experience, training in palliative care, and understanding of palliative care. Additionally, Wake (2022)³¹ conducted research in Ethiopia and found that nurses' knowledge of palliative care was greatly influenced by their experience caring for a dying patient and their training in the field. Meaning that as nurses get more experience or have access to palliative care training, their knowledge also advances.

This result disagrees with study done in Yemen by Al-Falahi, Haza'a & Al-Qalah (2022)²⁹ revealed that there was no statistical significantly

differences between total mean knowledge and nurses' experience & training of palliative care.

The present study revealed that there was a highly statistically significant relation between nurses' attitude and age, place of work, years of experience & years of experience of caring for elderly persons. In addition this study showed that there was statistically relation between attitude and gender, qualification & previous caring of dying elderly.

This result agreed with study done in Egypt by El-Sayad & Shaala (2021)³ who illustrated there was relation between nurses' age and their attitude towards palliative care. Also, a study conducted in Iran by Ashrafizadeh et al. (2022)³² who revealed that there was a significant relationship between some variables such as working place, education level, age, palliative care-related working experience.

As well as, study done in Rwanda by Kanyamuhunga, Uwamaliya & Unyuzumutima (2021)³⁰ who revealed that there was a highly statistically significant relation between the working experience of the studied nurses and their attitude towards palliative and end of life care. Also, study done in Nepal by Nepal, Garbuja, & Nepal (2021)¹² who revealed that nurses' experience of care for dying patients was statistically significant with attitude towards the care of dying patients.

In addition, study done in Ethiopia by Zeru et al. (2020)⁷ who revealed that work place and the age of studied nurses had a significant relation with the attitude of nurses. Study done in Congo by Mukemo et al. (2017)²⁵ who revealed that there was a relation between age & educational level of studied nurses' and attitude towards palliative care. That's indicated when nurses' age increase, their experience increase and their attitude improve. Also when their qualification increase, when they cared with dying before, their attitude improve. Females tend to have positive attitude because of their emotional nature.

The present study appeared that there was positive correlation between total attitude score and total knowledge score of nurses towards geriatric palliative care. This result is in agreement with study done in Egypt by El-Sayad & Shaala (2021)³ and in Korea by Kim, Lee & Kim (2020)¹³ showed that there were significant positive correlation between mean total score of nurses' knowledge and attitude toward palliative care. It

means when the nurses' knowledge improve, their favorable attitude also improves.

Conversely, this result is in disagreement with study done in Egypt by Mohamed & Ibrahim (2021)²² and in Saudi Arabia by El Azazey et al. (2019)²⁶ who reported that there was no significant positive correlation between mean total score of nurses' knowledge and their attitude towards palliative care.

6. Conclusion:

Based on the results of the present study, it can be concluded that more than half of nurses had fair knowledge and most of them had positive attitude towards geriatric palliative care. Moreover, level of knowledge and type of attitude affected by several factors including age, gender, qualification, income, place of work, years of experience, experience of caring for elderly patients, previous caring for a dying elderly persons and attendance of training program on palliative care. In addition, a statistical positive correlation was found between nurses' knowledge and their attitude towards geriatric palliative care.

7. Recommendations:

- 1) Simple geriatric palliative care booklet should be designed and given to all nurses in Mansoura University Hospitals and Centers through the responsible personnel.
- 2) The nursing departments at higher education institutions in Egypt should include courses on palliative care issues into their curriculum to increase the level of comprehension of their graduates.
- 3) Ongoing in-services training, seminars and workshops buttressing on geriatric palliative care should be needed.
- 4) Nurses need to engage in research and education that pushes them to enhance their practice, attitude, and knowledge of palliative care.

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Table 1. Demographic characteristics and professional data of the studied nurses

	N(275)	%
Age (years)		
From 20 < 25 years old	55	20.0
From 25 <30 years old	76	27.6
From 30 <35 years old	85	30.9
More than 35 years old	59	21.5
Mean ±SD	33.5 ±5.9	
Gender		
Male	35	12.7
Female	240	87.3
Qualification		
Diploma degree	66	24.0
Technical degree	120	43.6
Bachelor degree	79	28.7
Postgraduate studies	10	3.6
Place of work		
Oncology center	50	18.2
Specialized medical hospital	225	81.8
Years of experience		
From 1 < 5 years	71	25.8
From 5 <10 years	59	21.5
More than 10 years	145	52.7
Years of experience of caring for elderly persons		
1 < 5 years	104	37.8
5 < 10 years	57	20.7
More than 10 years	114	41.5

Table 2. Association between the demographic characteristics & professional data of the studied nurses and total knowledge score

	Total knowledge (Mean ±SD)	
Age (years)		
From 20 < 25 years	18.8 ±3.0	
From 25 <30 years	19.0 ±2.9	
From 30 <35 years	19.9 ±3.1	
More than 35 years	20.6 ±2.7	
Significance Test	5.144	0.002*
Gender		
Male	18.7 ±2.8	
Female	19.7 ±3.0	
Significance Test	1.804	0.072
Qualification		
Diploma degree	19.9 ±2.9	
Technical degree	19.3 ±2.9	
Bachelor degree	19.6 ±3.2	
Postgraduate studies	20.9 ±3.4	
Significance Test	1.230	0.299
Place of work		
Oncology center	18.2 ±2.6	
Specialized medical hospital	19.9 ±3.0	
Significance Test	3.689	<0.001**
Years of experience		
From 1 < 5 years	19.0 ±3.0	
From 5 <10 years	18.8 ±3.0	
More than 10 years	20.2 ±2.9	
Significance Test	6.052	0.003*
Years of experience of caring for elderly persons		
1 < 5 years	19.0 ±3.0	
5 < 10 years	18.8 ±2.8	
More than 10 years	20.5 ±2.9	
Significance Test	9.633	<0.001**
Experience of caring for elderly family member		
Yes	19.8 ±3.2	
No	19.2 ±2.6	
Significance Test	1.532	0.127
Attendance of courses about elderly care		
Yes	19.7 ±3.0	
No	19.5 ±3.0	
Significance Test	0.711	0.478
Previous caring of a dying elderly person		
Yes	19.7 ±3.0	
No	19.2 ±2.8	
Significance Test	0.947	0.344
Attendance of training program on palliative care		
Yes	17.8 ±3.1	
No	19.8 ±2.9	
Significance Test	3.188	0.002*

Table 3. Association between the characteristics & professional data of the studied nurses and total attitude score

	Total attitude Mean \pm SD	
Age (years)		
From 20 < 25 years	72.5 \pm 6.6	
From 25 <30 years	73.9 \pm 7.1	
From 30 <35 years	76.0 \pm 5.3	
More than 35 years	76.2 \pm 4.7	
Significance Test	5.444	<0.001**
Gender		
Male	72.8 \pm 5.6	
Female	75.0 \pm 6.1	
Significance Test	2.066	0.040*
Qualification		
Diploma degree	75.5 \pm 4.7	
Technical degree	73.6 \pm 6.7	
Bachelor degree	75.6 \pm 6.1	
Postgraduate studies	77.2 \pm 4.7	
Significance Test	2.892	0.036*
Place of work		
Oncology center	71.9 \pm 6.4	
Specialized medical hospital	75.4 \pm 5.9	
Significance Test	3.761	<0.001**
Years of working experience		
From 1 < 5 years	72.9 \pm 6.8	
From 5 <10 years	73.6 \pm 7.0	
More than 10 years	76.2 \pm 5.0	
Significance Test	8.806	<0.001**
Years of experience of caring for elderly persons		
1 < 5 years	73.4 \pm 6.5	
5 < 10 years	74.0 \pm 7.	
More than 10 years	76.4 \pm 4.7	
Significance Test	7.833	<0.001**
Experience of caring for elderly family member		
Yes	75.0 \pm 5.7	
No	74.2 \pm 7.0	
Significance Test	0.987	0.325
Attendance of courses about elderly care		
Yes	74.8 \pm 6.0	
No	74.7 \pm 6.2	
Significance Test	0.024	0.981
Previous caring for a dying elderly person		
Yes	75.1 \pm 6.1	
No	73.2 \pm 6.1	
Significance Test	2.058	0.041*
Attendance of training program on palliative care		
Yes	72.9 \pm 8.8	
No	74.9 \pm 5.8	
Significance Test	1.610	0.109

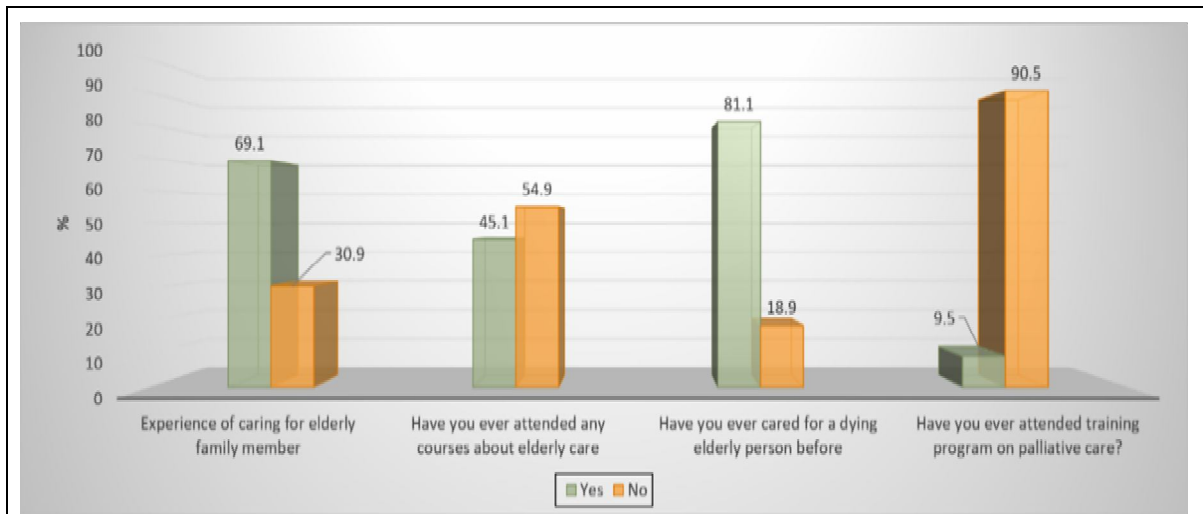


Figure 1. Experience of the studied nurses about caring and attendance of courses about elderly and palliative care

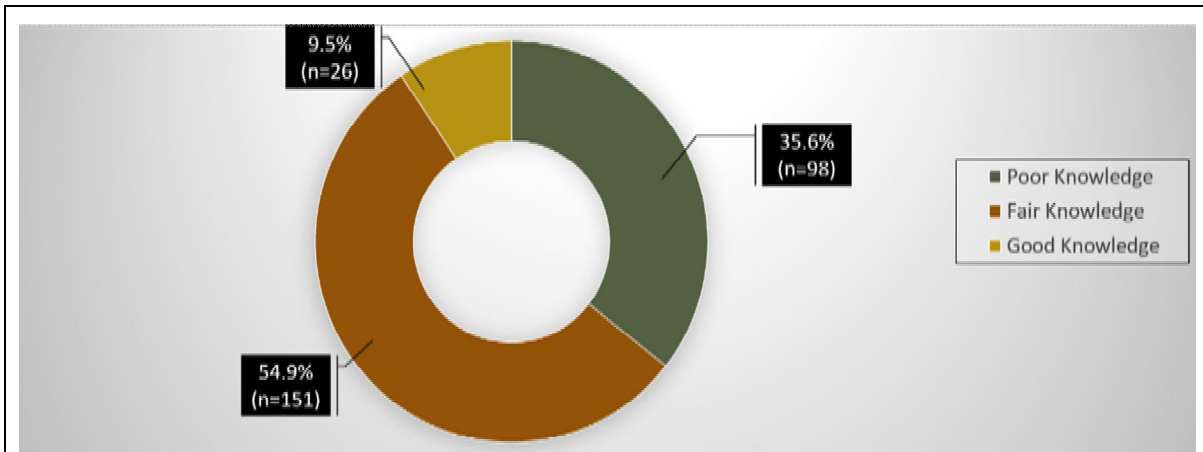


Figure 2: Nurses' level of knowledge towards geriatric palliative care

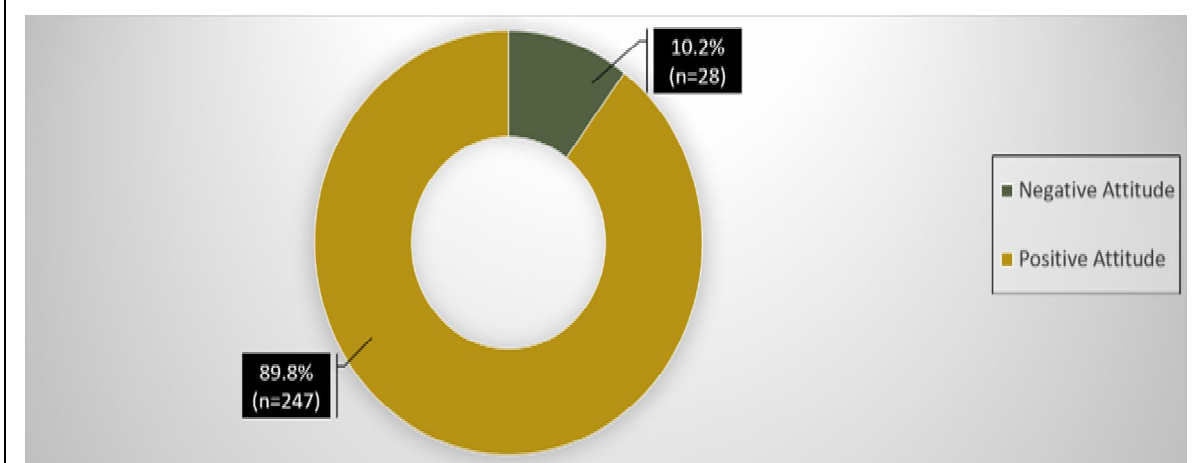


Figure 3. Nurses' attitude towards geriatric palliative care

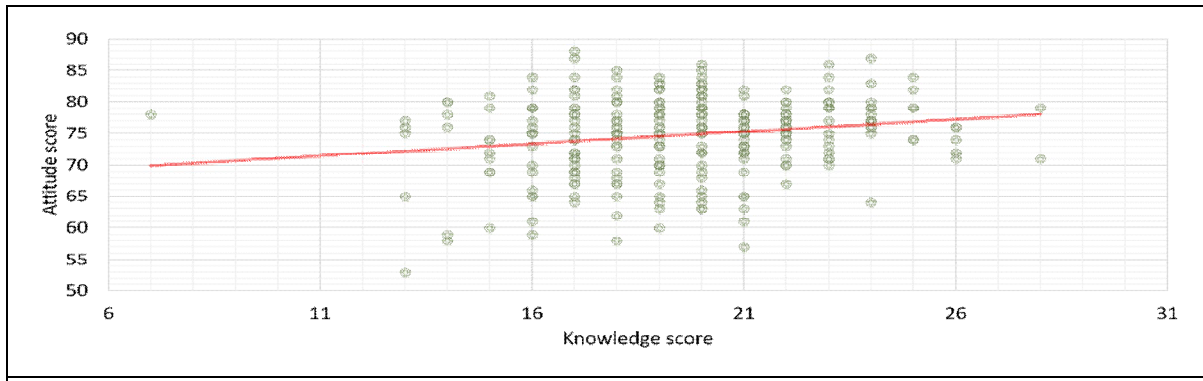


Figure 4. Correlation between the total attitude and total knowledge score