Effect of Designed Nursing Instructions on Knowledge and Attitude of Elderly Care Nurses' and Assessment of Senior Friendly Hospital Criteria

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Abstract

Background: A senior-friendly hospital focuses on providing geriatric care through support and responds to a senior's physical and cognitive needs and develops knowledge, skills, and attitudes of nurses and other health professionals to be fully maximum in their care. **Aim:** Evaluate the effect of designed nursing instructions on the knowledge and attitude of elderly Care nurses and assessment of senior-friendly Hospital criteria. **Research design:** One group pre-posttest quasi-experimental **Setting:** The study was conducted at the Cardiac and Digestive System Center in Sohag City. **Sample:** A simple random sample of 42 nurses was included. **Data collection tools** were **Tool (I):** Structured interview questionnaire about personal data and work-related factors. **Tool (II):** Knowledge assessment questionnaire. **Tool (III):** Multifactorial attitude of health care professionals toward older people questionnaire**, Tool (IV):** Senior-friendly hospital criteria checklist**. Results:** The mean scores of participants' knowledge and attitude regarding elderly care had a high statistically significant difference ($t = 29.806$, $p = 0.001$) in pre- and post-training programs. More than half (59.5%) of the participant nurses precepted their hospital as a senior-friendly hospital with a strong positive significant relation between knowledge and participant nurses' perception of senior-friendly hospital criteria ($r=0.575$, $p=0.002$). **Conclusion**: The application of designed nursing instructions is highly effective in improving the knowledge and attitude of nurses regarding care of elders, which enhances the hospital's chance to be a senior-friendly hospital. **Recommendations** Hospital managers should set a hospital policy on adherence to senior-friendly hospital criteria and training for all health professionals for providing elders' care.

Keywords: Attitude, knowledge, nursing instructions, and older, senior-friendly hospital

Introduction

A normal and inevitable phase of human life is aging. Since the start of the third millennium, aging has been an increasingly widespread phenomenon worldwide. People's health has improved, and medical advancements have raised life expectancy, which has increased the number of senior people **(Marsden et al., 2021).** The average length of hospital stay and the cost of health care services are higher for the elderly than for the general population. According to **Karami et al. (2023)**, the majority of hospitals are not senior-friendly, and older patients are dissatisfied with the level of care they receive from them.

Around the world, the phrase "elderly age" can indicate several things. The United Nations (UN) defines elderly people as anyone 60 years of age or older, whereas the majority of wealthy countries define "older persons" as those 65 years of age or older. (**Ron & Williams, 2022**). Approximately 727 million people (9.3% of the world's population) were 65 years of age or older in 2020, according to

sources. By 2050, there will be 5 billion persons over the age of 65, more than double the current figure **(United Nations Department of Economic and Social Affairs, 2020).**

The body experiences physiological, chronological, psychological, and social changes as it ages, making it a normal and irreversible phase (Fita et al., 2021). Complications of aging include decreased physical and mental competence, greater dependence, and loss of self-reliance. For instance, older adults are more likely to attend health facilities due to their high prevalence of chronic illness and disability **(Lartey et al., 2020).** Healthcare costs are negatively impacted by population aging in both industrialized and developing nations. Increased utilization of medical services results in greater per capita health care expenses in developed nations where acute care services are widely available. The leading causes of the overall illness burden and medical expenses among the elderly have been cancer, heart disease, and stroke **(Abdu et al., 2024).**

Elderly persons can receive care and services from geriatric nurses. The current demographic shift caused by an increase in life expectancy has created a need for geriatric care, which is a growing setting **(Deba et al., 2024).** Geriatric care is multifaceted and requires expert nursing care in long-term care or assisted living settings. Patient outcomes, family satisfaction, and caregivers' capacity to deliver appropriate care are all enhanced by nurses' understanding of and attitudes toward caring for older adults **(Awad et al., 2020).** The quality of healthcare services is greatly impacted by nurses' knowledge, which can also decrease hospital stays, lower readmission rates, and improve patient and family satisfaction **(Kebede et al., 2022).**

Positive or negative attitudes toward the elderly are shaped by one's attitude toward them **(Abdu et al., 2024**). In addition, nurses' attitudes and values shape their perceptions of and interactions with the elderly. In 2020, Rababa et al. Numerous factors, including age, living with older family members, sex, marital status, education level, experience, learning institutions, training in elderly care, and working units/wards, have been directly linked to nurses' attitudes and practices regarding caring for elderly patients in previous studies **(Alharbi, 2020).**

The health care system, including hospitals, must be evaluated for its "preparedness" to meet the needs of the elderly population in light of the following factors: a high and growing number of older people; a high prevalence of frailty and morbidity in older people, which indicates a need for medical attention; and a high rate of hospital service utilization by the elderly population **(Rahmanpour et al., 2019).** The World Health Organization has been pushing for safer and more senior-friendly settings, such as senior-friendly hospitals, which have a unique layout and design to make them safe for elderly patients and to raise awareness of their unique needs among medical professionals. According to **Rashmi et al. (2019),** these hospitals' layouts facilitate physical access for elderly patients who might have vision, hearing, or mobility limitations and modify their main healthcare management systems to meet their needs.

The Senior-Friendly Hospital framework is legitimate and significant for improving patient safety and quality, as well as for establishing an appropriate setting and offering senior citizens high-quality medical treatments that are tailored to their needs **(Kaehne, 2020).** Three key categories make up the WHO's definition of the foundation for senior-friendly hospitals. **WHO (2007).** First, every hospital may be made more accessible and approachable by guaranteeing priority in every area, scheduling appointments and reminding patients of

them, and assigning volunteers to assist the elderly. Second, geriatric medicine-trained physicians and nurses may be more considerate of the needs of the elderly. Third, a physically suitable setting that is comfortable, clean, and easily accessible in accordance with the unique needs of the elderly **(Allen et al.,2020).**

According to **Hosseini et al. (2020),** the absence of educational training for nurses and other professionals who care for the elderly has put them in danger of developing a negative opinion of nurses and nursing services in healthcare settings. Although nurses are the front-line providers of geriatric care in hospitals, there is no organized geriatric nursing care in Egypt, and their level of practice and expertise in this area has not been sufficiently examined. Therefore, this study aimed to assess effect of designed nursing intervention on staff nurses' knowledge and attitude towards elderly care and assessment of senior friendly hospitals criteria. It would be crucial for hospital administrators, public health policymakers, and other interested parties to develop suitable plans.

Significance of the Study

The population of the planet is aging quickly. In 2021, 9.2% of Egyptians were predicted to be 60 years of age or older; by 2050, that number is predicted to rise to 20.8%. By then, almost 20 million Egyptians will fall into the category of the elderly **(Egypt Demographics Profile 2019).** Approximately 75% of older persons worldwide, particularly in Africa, have at least one chronic illness, and 77.5% of them are receiving medical care in hospitals. Across the continuum of care, interdisciplinary hospital systems and progressive nursing practices can assist in meeting the requirements of senior citizens **(Cacchione, 2020).**

The establishment of senior-friendly hospitals is crucial for advancing the general well-being of the aged and the readiness of the healthcare system, including hospitals, to address their requirements (Macdonald & Levy, 2021). In order to provide proper care for elderly patients, Senior-Friendly Hospital concepts must be systematically applied to all operational systems. This includes improving patient treatment procedures, hospital environment, and health professional training. There is a lack of information about the problem in Upper Egypt and insufficient data at the hospital application of senior-friendly hospital standards, despite several studies examining nurses' knowledge of and desire to deal with older patients.

Aim of the Study

Assess the effect of designed nursing instructions on knowledge and attitude of elderly Care nurses' and assessment of senior friendly hospital criteria.

Specific objectives:

- To assess nurses' knowledge levels regarding elderly care.
- To examine nurses' attitude levels regarding elderly care.
- To assess of senior friendly hospitals criteria.
- To detect the effect of designed nursing instructions on nurses, knowledge and attitude levels.
- To develop, implement and evaluate designed nursing intervention.

Study hypothesis

- H1: Designed nursing instructions had positive affect on nurses, knowledge and attitude.

Subject and Methods

Research design

Quasi experimental design (Pre-Posttest) was utilized conducting the study.

Setting

This study was conducted in Cardiac and Digestive System Center at Sohag City which affiliated to Ministry of Health. This center is considered a leading and out premising place in Sohag Governorate. It provides so many services for critical ill cardiac and digestive system patients as good diagnostic and therapeutic means. The bed capacity of this center is 108 beds. It provides services as cardiac clinic, cardiothoracic clinic, gastrointestinal tract endoscopy unit, laboratory and radiology department, intensive care unit after cardiothoracic operation (post-operative cardiothoracic surgery).

Sample

Simple random sample of 42 nurses, worked at Cardiac and Digestive System Center in Sohag City. The sample size calculated by the following equation with 95% confidence interval.

$$n = \frac{N\,Z^2\,\sigma^2}{Z^2\,\sigma^2 + N\,e^2}$$

$$n = \frac{197 \times (1.96)^2 \times (0.256)^2}{(1.96)^2 \times (0.256)^2 + 197 \times (0.05)^2} = 41.87 \cong 42$$

Where:
$Z = 1.96$ [standard scores], $e = 0.05$ [error], $\sigma = 0.256$ [SD], $N = 197$ [population], $n = 42$ [sample]

Data collection tools

There are four tools were utilized to collect data for this study:

Tool I: Structured interview questionnaire sheet: It was developed by the researchers and included two parts:

First part: socio-demographic characteristics of nurses as, age, sex, residence, marital status, current & previous occupation, and level of education, etc.

Second part: personal factors and work- related factors: as living with elderly at home, care experience with elderly, department work in, years of experiences, receiving knowledge about elderly care…. etc.

Tool II: Knowledge regarding care of elderly assessment questionnaire: Self-administered questionnaire adopted from **Kaur, et al 2014.** It used to assess nurses' level of knowledge regarding care of elderly people. It was consisted of 28 multiple choice questions with one right answer related to care of elderly people. Total Knowledge score was categorized as poor (less than 15 correct points), average (15-20) and good (21-28) as per the score obtained by the participants.

Tool III: Multifactorial attitude of health care professional toward older people questionnaire: It is a 20-item Multifactorial Attitudes Questionnaire (MAQ) was adopted from (Kydd et al 1999). It is used to investigate the attitudes of nurses towards working with older people and to the esteem that comes with working in this field. The MAQ consists of seven positive and 13 negative statements. It scored by five-point Likert scale ranging from strongly agree to strongly disagree. A higher total score indicates a more positive attitude. Total score was categorized as adequate and inadequate level of attitude according to the participants responses (60% and more were considered positive attitude, less than 60 were considered negative attitude.

Tool IV: Senior friendly hospital criteria checklist: it was adopted from **(Rashmi et al., 2016),** who built it upon the suggestions of the World Health Organizations (WHO) Age-Friendly Primary Health Care Centers Toolkit. It was used to assess the nurses` perception about the extent to which their hospital is senior friendly hospital. The researchers rated each of the criteria using a Likert 5-point scale, from not at all important = 1 to most important = 5. The cut point is 70% of the total score of nurses` perception to be senior friendly hospital.

Validity of study tools

The data collecting tool's content validity was assessed by five Sohag University experts in nursing administration and geriatric nursing; any required modifications would be made. Each member was contacted and requested to assess the content and structural design of the tools in order to verify the

completeness and clarity of the things being questioned. Every suggestion and criticism was considered, updated, and the proper sequence of some statements was maintained.

Reliability of study tools

Cronbach's Alpha, which is a number between 0 and 1, was used to measure the internal consistency of the tools. The degree to which each item on the test measures the same concept or construct is known as internal consistency, and it is thus correlated with the degree to which the items on the test are related to each other. Internal consistency for the instruments utilized was measured by the researcher, and the results showed that the knowledge score had a Cronbach's Alpha of 0.814 and the attitude score had a Cronbach's Alpha of 0.785. Checklist of requirements for a senior-friendly hospital Cronbach's alpha was 0.799, a statistically acceptable result.

Ethical Considerations

The Faculty of Nursing's Ethical Committee approved the research idea. The study subjects were not at risk during any phase of the study. The study complied with clinical research ethics guidelines. Anonymity and confidentiality were guaranteed. Participants were free to decline participation in the study at any moment without providing a valid reason. Following a thorough description of the study's purpose and methodology, all participants provide their oral consent.

Field work

Data collection procedure began at the beginning of February2024, and continued for five months, ending at the end of June 2024. The researchers completed the pretest after introducing themselves, going over the goal, duration and activities of the study and getting oral consent during the initial contact. According to Wang and Wilcox (2006) measuring the effect of training on learners requires sufficient time for such opportunities to demonstrate their acquired skilled and would occur in their setting. Posttest was done after one month and providing handout booklet in Arabic language for all the participants at the end of the program.

Procedure

The study was accomplished through three phases:
I- Preparatory phase: This phase began at the beginning of February2024, and continued for two months, ending at the end of March 2024. It included the following:

Pilot study

A pilot study was carried out to evaluate the tools' applicability, feasibility, and clarity as well as to estimate the time needed before starting data collecting on 10% of nurses employed in the selected locations. Data from the pilot research were analyzed. Since no modifications were made, pilot study participants were included in the final analysis. The program was created based on this evaluation of the knowledge and disposition of nurses.

Development of designed nursing instructions and preparation of Program sessions:

General objective: To enhance nurses' knowledge and attitude towards care of elder.
Specific objectives:
- Formulate designed nursing instructions.
- Develop training program sessions to provide nurses with designed nursing instructions
- Assess nurses' knowledge and attitude towards care of elder before and after receiving training sessions.

Description of the program: the researchers created this curriculum after examining recent national and international literature. The program's duration, number of sessions, teaching strategies, media (pictures, posters, videos, data display, white board, and printed brochures), and teaching strategies (demonstration, group discussions, and brainstorming) were all decided by the researchers. The program's facilities and teaching location were examined for suitability. This stage lasted for a month. It includes theoretical and practical parts:

- The **Theoretical part**: included the following: information about aging, the aged population, the percentage of the elderly globally, the characteristics of the elderly, frequent issues facing the elderly, issues facing the elderly in Egypt, the United Nations' guidelines for effective aging strategies, senior-friendly hospital standards, etc.

- The **Practical part**: **elderly care** included the following: pharmacological treatment, environmental change, health maintenance, safety procedures, nursing care for the elderly, thorough evaluation of the elderly, prevention of falls, treatment of psychological issues in the elderly (depression, anxiety, dementia), communication and enjoyment of everyday activities, etc.

Administrative permissions

Official permission was obtained from hospital manager and nursing director at Cardiac and

Digestive System Center before starting the program implementation.

III. Implementation phase: The implementation phase for this study was carried out from the beginning of April 2024 to May 2024. This stage involved introducing the nursing instructions and administering the pre-test. The researchers gave a brief introduction to the participants and explained the nature and goal of the study during the first meeting with the staff nurses. The consent of the participants was acquired. The researchers gave the study participants an explanation of the tools' use and content. Before the training program began, the researchers evaluated the nurses' attitudes and knowledge about caring for the elderly pre-test.

The researchers planed the sessions of the program. The participant nurses were split up into five small groups according to their availability and preparedness for presentation. According to the date of the initial interview, a group of nurses attended one session lasting 30:45 minutes every week for five weeks, with varying numbers ranging from 8 to 10 each day. Between each session, a 10-minute break was taken.

- **The 1st session:** The researchers evaluated the staff nurses' core knowledge and attitudes at the start of the session, secured consent for participation, and described the goals of the planned nursing instructions and the teaching topic.
- **The 2nd session:** The staff nurses were given clear information regarding elderly, including meaning of aging, elderly people, elderly percent worldwide, elderly physical characteristics, elderly psychological and social characteristics, common problems among elderly, elderly problems in Egypt, and the role of government.
- **The 3rd session**: It included instructions on elderly nursing care as the following: preventive care for elderly, pharmacological therapy, and environmental modification, maintaining health.
- **The 4th session**: The researchers' explanation of geriatric nursing care includes the following: the significance of nursing care for the elderly, elderly assessment, mini-mental status examination, prevention of pressure ulcers, care for urinary incontinence, nutritional care, and care for elderly constipation, prevention of falls, care for elderly hypomnesia, and care for elderly hypertension.
- **The 5th session:** It include information on psychological health of elderly including care of psychological problems among elderly (depression, anxiety, dementia), continuing communication, finding joy in daily activities, and

description of the main criteria of senior hospital based on WHO toolkit.

At the end of each session, a summary was given by the researchers and highlighting the most important topics. Before the starting of next session, nurses were asked questions related to the topics discussed in the previous session to identify their learning achievement. These sessions were repeated for every new group of nurses' staff.

IIV. Evaluation stage

The evaluation was conducted after one month from the last session, during June 2024. The researchers assessed nurses' knowledge and attitude regarding elderly care, and their perception towards senior friendly hospital criteria.

Statistical analysis

Data entry and analysis were done using SPSS version 22 (Statistical Package for Social Science). Data were presented as a number, percentage, mean, and standard deviation. Chi-square and one sample T tests were used for analysis of variables. The used tests of significance included; Pearson correlation coefficients (r) was used to study association between variables. P-value considered statistically significant when $P < 0.05$.

Results

Table(1):Displays sociodemographic characteristics, personal factors and work- related factors of the participant nurses, more than half of them were 18-24 years old with average mean 22 ± 1.86. 54.8 % of them were married and 73.8% were females and from rural areas. Near half of the nurse had secondary or technical educational preparation. More than half (69%) of them didn't live with elders at home but (59.52%) provide care for elder patients. About one third of them were working at surgical unit (31%) and another third at intensive care units (35.7%) about 64.3% of them had less than 10 years of experience. More than three quarters weren't received any training/ instruction on how to deal with the elderly (76.19%) and more than half had difficulty to care elders to some extent (54.8%).

Figure (1) presents the participant nurses' level of Knowledge and attitude regard care of elderly pre and post educational program. More than three quarters (78.57%) of participants had good level of knowledge at post training program compared with near half (45.24%) of them had poor level of knowledge at pre- training program. Majority (95.24%) of participates had adequate attitude regard caring elders at post training program while near three quarters (73.81%) of them had inadequate attitude regard caring elders at pre- training program.

Table (2): shows that the mean scores of participant nurses' knowledge regarding elderly care pre and post educational program were (20.19±4.69 and 27.02±0.95), showing a high statistically significant difference (t = 29.806, p = 0.001). The mean scores of participant nurses' attitude regarding elderly care pre and post educational program were (63.4±7.45 and 76.95±8.93), showing a high statistically significant difference (X^2= 19.657, p = 0.002).

Table (3): illustrates that the mean score of participant nurses' perception regard domains of senior friendly hospital criteria where the "medical care services at the hospital domain" came at the first as a criterion of senior friendly hospital (18.67±0.9, 77.8%). While "Inpatient services at the hospital" domain came at the last criterion of senior friendly hospital (2±0, 50.0%).

Table (4): indicates that the percentage and total mean score of participant nurses' perception of senior friendly hospital criteria where more than half of (59.5%) the participant nurses precepted their hospital as senior friendly hospital.

Table 5: displays that there was a positive statistically significant correlation between knowledge and attitude toward elderly caring at pre and post educational program (r= 0.375, p= 0.015), (r= 0.475, p= 0.002).

Table (6): clarifies that the relation between knowledge and attitude toward elderly caring and their perception of senior friendly hospital criteria. There was a strong positive statistically significant relation between knowledge and participant nurses' perception of senior friendly hospital criteria (r=0.575, p=0.002).

Results

Table 1: Distribution of participant nurses according to their socio-demographic characteristics, personal factors and work- related factors (n=42)

		No. (n=42)	%
Age	18-24 years	23	**54.8**
	25-44 years	16	38.1
	45-60 years	3	7.1
Mean ± SD 22±1.86			
Sex	Male	11	26.2
	Female	31	**73.8**
Residence	Rural	31	**73.8**
	Urban	11	26.2
Marital status	Married	23	**54.8**
	Unmarried	19	45.2
Education levels	Technical nursing degree	20	47.63
	Bachelor	17	40.48
	Postgraduate studies	5	11.9
Do you live with elderly people at home?			
	Yes	13	31.0
	No	29	**69.0**
Do you provide care for elder patients in practice?			
	Yes	25	**59.52**
	No	17	40.48
Nursing department	Medical	8	19.0
	Surgical	13	31.0
	Outpatient clinics	6	14.3
	Intensive care	15	**35.7**
Years of experience	Less than 10 yrs.	27	**64.3**
	10 yrs. or more	15	35.7
Have you received any specialized training or courses about how deal with elders؟			
	Yes	10	23.81
	No	32	**76.19**
Do you find it difficult to care for the elderly؟			
	Yes	11	26.2
	To some extent	23	**54.8**
	No	8	19.0

Figure 1: **Comparison of participant nurses' levels of Knowledge and attitude regard care of elderly pre and post training program. (n=42)**
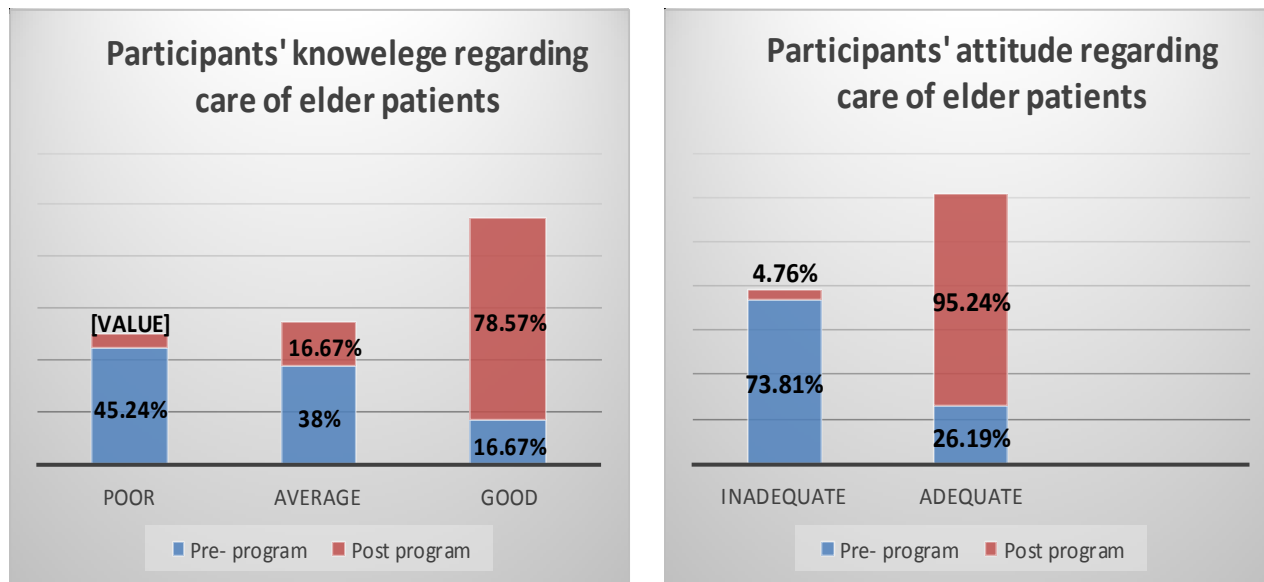

Table 2: Comparison of participant nurses' Knowledge and attitude regarding elderly care pre and post training program (n=42)

	Pre Mean ± SD	Post Mean ± SD	X^2/t	P. value
Knowledge regarding elderly care	15.19±4.69	27.02±0.95	29.806	**<0.001****
Attitude regarding elderly care	63.4±7.45	76.95±8.93	19.657	**<0.002****

. **** Highly statistically significant at p<0.00**

Table 3: Mean score of participant nurses' perception regard domains of senior friendly hospital criteria (n=42)

Subdomains	Max. score	Min.-Max.	Mean ± SD	Mean%	Rank
Domain I — Accessibility	10	5 - 8	6.81±0.82	68.1	3
Domain II — Medical care services at the hospital	24	17 - 20	18.67±0.9	77.8	1
Domain III — Physical environment at the hospital	36	21 - 32	25.86±2.52	71.8	2
Domain IV — Inpatient services at the hospital	4	2 - 2	2±0	50.0	5
Domain V — Spiritual environment	8	5 - 5	5±0	62.5	4

Table 4: Total mean score of participant nurses' perception of senior friendly hospital criteria (n=42)

			No. (n=42)	%
Senior friendly hospital (>70%)			25	59.5
Not Senior friendly hospital (<70%)			17	40.5
	Max. score	Min.-Max.	Mean ± SD	Mean%
Total score	82	53 - 65	58.38±2.82	71.2

Table 5: Correlation coefficients between knowledge and attitude toward elderly caring pre and post educational program of participant nurses (n=42)

	Knowledge			
	Pre		Post	
	r	p	r	p
Attitude	0.375	0.015*	0.536	0.002**

* Statistically significant at p<0.05

Table 6: The relation between knowledge and attitude toward elderly caring and their perception of senior friendly hospital criteria (n=42)

	Knowledge		Attitude	
	r	p	r	p
Participant nurses' perception of senior friendly hospital criteria	0.575	**0.002***	0.261	0.068

Discussion

According to **Attafuah et al. (2022),** the elderly population is particularly vulnerable and frequently seeks medical attention due to their changing needs; nurses are the primary caregivers for the elderly when they visit the hospital; chronic illness and disabilities are strongly linked to older adults, so they visit the health facility more frequently (**Agyemang-Duah et al., 2020, Lartey et al., 2020);** the average length of hospital stay for the elderly is longer than for the general population; however, the elderly are not satisfied with the quality of services provided by hospitals, and the majority of hospitals are not elderly-friendly hospitals (Mehd Abdu et al., 2024).

The result of current study showed the distribution of the participant nurses regarding their socio-demographic data, it was observed that about three quarters of them were female and, live in rural areas while near half of them had secondary or technical nursing educational preparation followed by one third had bachelor degree in nursing. More than half of participant nurses were young at age 18-24 years old and married. About half of them were not live with elders but provide care for elder patients at their practice with less than 10 years of experience. According to **Garaa et al. (2024), the** nurses' educational background and experiences had the biggest influence on the development of favourable attitudes toward elder care and the belief that nursing care services provided in their healthcare facilities are of high quality.

A little over fifty percent of the participating nurses regard caring for the elderly to be somewhat difficult. This can be explained by the fact that almost four out of five of them did not take any courses or obtain specific training on how to interact with the elderly. The results of the study were in contrast to those of **Lee et al. (2023),** who discovered that all of the

participating nurses were female, that the majority of them were over 25, and that over half of them had lived with the elderly. In addition, the majority of them were registered nurses with experience working in non-medical wards.

Concerning years of experience for nurses in current study, most of them were had less than ten years as regarding years of experience. This in the same line with an Ethiopian study **Amsalu and Messele (2021)** who reported that nurses with more than three years of experience and more than two or three chronic diseases find it difficult to care for elderly patients, and that nearly half of the participants had a gerontology education during their baccalaureate nursing program, while only a small percentage had advanced training as geriatric nurses. This could be because elderly patients experience numerous age-related changes that require a great deal of extra care and effort.

As concern to the participants' knowledge regard care of elder patients at pre and post training program, the results revealed that more than three quarters of participants had good level of knowledge at post training program compared with near half of them had poor level of knowledge at pre- training program. The results were similar to a cross-sectional study was conducted in Zanzibar by **Muhsin et al., (2020)** who reported that near half of participants had low knowledge about aging care in pre-test. The findings of this study could possibly be explained by the fact that the majority of the participants had never received gerontological nursing specialty training prior to caring for elderly patients. All nurses must therefore have access to gerontological education programs and work experience in order to develop their leadership abilities, self-worth, and ability to provide better care for the elderly as reported by **Help age Internationle, (2018).**

As concern to the attitude of the study participants toward older people at pre and post training program, measured by MAQ. Majority of participates had adequate attitude regard caring elders at post training program while near three quarters of them had inadequate attitude regard caring elders at pre- training program. The way that nurses behave about caring for the elderly has a significant impact on the type and standard of care that is given to them **(Garaa et al., 2024).** Healthcare professionals and undergraduate students have negative attitudes toward older adults, according to a systematic review of the majority of studies conducted in developed countries **(Che et al., 2018; Maximiano-Barreto et al., 2019). Rush et al., (2017)** indicated that the attitudes of hospital nurses toward providing care for elderly patients and the factors that influenced those attitudes were crucial in order to guide strategies for enhancing nurses' attitudes and promoting high-quality care for senior citizens.

Similar to the current study, **Maximiano-Barreto et al. (2019)** indicated that most research done in industrialized nations found a higher tendency of having negative opinions toward older individuals' care. Post test results from application educational programs about caring for and treating the elderly are significantly better than pre-test results. In order to lessen the unfavourable implicit views of the younger generation and possibly even pique their interest in working with the elderly, they suggested activities that involved both older persons and professionals/students **(Lew et al., 2021).**

The study findings clarified that the mean scores of participant nurses' knowledge and attitude regarding elderly care pre and post training program were showing a high statistically significant difference. Ageism influences the attitudes of nurses towards older adults. This is detrimental since pervasive ageist attitudes and stereotypes contribute to negative health outcomes on their physical and mental health. **(Burnes et al., 2019).** Caring for older person is complex and requires unique skills. Therefore, the designed instructions included all aspects that the nurses need to have a comprehensive understanding of aging which resulted in increasing their knowledge, and developing their positive attitudes towards older adults. These results support the findings of the majority of previous researches **(Che et al., 2018; Wilson et al., 2018; Salin et al., 2020; Uğurlu et al., 2019).**

Nurses' attitudes and knowledge about caring for older adults were found to be correlated. The Pearson correlation coefficient finding showed a considerably strong positive association between nurses' attitudes and knowledge about older individuals. This result was in line with the study by **Priscilla et al. (2022)** and showed that a more optimistic attitude was correlated with greater knowledge about aging. Gerontological education should actively engage nurses. Nurse education may have an impact on shifting perceptions of senior citizens, according to **Ridgway et al. (2018).** Current nursing staff members demand more in-service training and ongoing professional development on aging, particularly the skills necessary for integrated management of complicated healthcare requirements and thorough assessments of healthy aging.

From this current study findings, as regarding the assessment of senior friendly hospital criteria as perceived by the study participants to assess a hospital for senior friendliness. More than half of nurses were found their hospital (the study setting) as a senior friendly hospital. After the intervention of application of designed nurses' instruction, nurses become aware of senior friendly criteria, which also enhancing their knowledge and attitude regard caring of elders. Their responses reflect the positive view of the hospital as friendly to provide care for elder adults. The mean score of participant nurses' perception regard domains of senior friendly hospital criteria where the "medical care services at the hospital domain" came at the first as a criterion of senior friendly hospital. While "Inpatient services at the hospital" domain came at the last criteria of senior friendly hospital.

This result was in the same line with a recent study by the University of Benin School of Medicine and Geriatrics Team Lead where the critical care unit's healthcare professional must be cognizant of the risk of falls. Low beds with bed rails should be utilized for elderly individuals. There should be non-slip floor tiles. Senior care management should be implemented with a focus on the "4 Ms": mobility, medicine, and mentation **(Osayomwanbo et al., 2024).** Additionally, compared to participants who did not attend Learning Workshops (LWs), those who did go were substantially more likely to suggest the senior friendly criteria Toolkit to others. As sites/units may implement modifications that matched their unique settings, contexts, and constraints, interviewees said the program was well-structured and adaptable **(Mubashir et al., 2020).**

For senior citizens, hospitals might be "unfriendly." Ageism, overestimations of competence, clinical procedures hampered by ignorance, and improper environmental design are all contributing causes **(Ryan et al., 2022).** Consequently, in regard to the relationship between their impression of senior-friendly hospital standards and their knowledge and attitude toward care for the elderly. The knowledge and impression of participating nurses about senior-friendly hospital requirements differed in a statistically significant way. Older persons' hospital experiences are more likely to be improved by hospitals that take

an organizational approach to addressing the complex character of the GNPE (Geriatric Institutional Assessment Profile) **(McKenzie et al., 2019).**

Establishing services and places that are senior-friendly is essential given the growing number of elderly people in emerging nations like Egypt. When designing and building new hospitals or renovating existing ones, additional attention must be paid to elder-friendly concepts due to the growing need for hospital beds **(Ahmadi et al., 2019).** It is necessary to develop and enhance policies pertaining to the health of the elderly, hospital physical settings, senior-friendly healthcare personnel, advocacy, and other facilities and perks. Hospital policies and guidelines that prioritize the health advantages and hospitable services of older patients must be developed immediately **(Wong et al., 2021).**

Conclusion

In conclusion, this study found that nursing instructions are highly effective in improving knowledge and attitude for nurses regarding care of elders. There is statistically significant difference between pre and post implementation of nursing instruction regarding care of elders. Enhancing the nurses' knowledge and attitudes towards the elder would also enhance the hospital chance to be senior friendly hospital.

Recommendation

Based on these findings it is recommended that:

1. Hospital managers should set a hospital policy on adherence to senior friendly hospital by preparing the hospital environment and periodic in-service training for all health professionals working at units providing care for elders.
2. Providing nursing managers with ongoing professional development in the field of gerontology is essential during practice to improve the quality of care for older adults and raise the standards of senior-friendly hospitals.
3. Disseminating the designed nursing instructions in both Arabic and English for other health care settings.
4. More research, particularly qualitative research, should be done to examine the variables influencing attitudes and knowledge on elder care.
5. To validate the study's findings, the study should be repeated with a larger sample in several hospitals and regions.

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