

Original Article

Comparing Knowledge and Attitudes toward Elderly Care between Nursing Students and Clinical Instructors: A Cross-Sectional Study

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Abstract

Background: The population of our world is fast ageing, and thus competent care for the elderly is increasingly in demand. This requires nurses with excellent knowledge and positive attitudes towards older individuals. This study thus aimed to compare these two most significant areas between students and clinical instructors of nursing schools.

Methods: A cross-sectional study was carried out in 2022 at Neyshabur University of Medical Sciences. A convenience sample of 186 individuals (159 nursing students and 27 teachers) participated by answering three questionnaires: a demographic questionnaire, Facts on Aging Quiz (FAQI), and Kogan's Attitudes toward Old People Scale (KAOPS). Data were analyzed with the assistance of SPSS-26 through independent t-tests, Mann-Whitney U tests, and correlation studies.

Results: Teachers' scores were moderately higher in knowledge (12.07 ± 3.23 vs 10.93 ± 3.30 , $p=0.099$) and attitudes (128.22 ± 11.96 vs 126.71 ± 20.43 , $p=0.711$) than students' scores but were not statistically significant when contrasted with students' scores. In our study, no experiential or demographic factors demonstrated significant relations with knowledge or attitude scores. Furthermore, no overall strong and non-significant correlation between knowledge and attitudes was identified ($r = 0.031$, $p = 0.678$).

Conclusion: Both students and faculty showed moderate knowledge and unfavorably low attitudes towards caring for the elderly, signifying a serious educational deficit. The study underscores that these gaps go beyond biological to mental, social, and cultural considerations of aging. Wholistic curriculum reform with experiential education, practice rotations, and overt anti-ageism education is necessary to equip a capable nursing force for caring for the aged.

Keywords: Aging; Attitude; Knowledge; Nursing Students; Nursing Education

Introduction

The global population is aging at an unprecedented rate, with projections indicating that by 2050, individuals aged 60 and older will constitute over 22% of the world's population, approximately 2.1 billion people (Arsenovic, 2024). This demographic shift poses significant challenges for healthcare systems, particularly

in nations like Iran, where the older population is expected to reach 25% by 2051, making this group the fastest-growing segment in the country (Bahmaei et al., 2023). This trend creates a surge in demand for specialized healthcare for older adults, and it is anticipated that the majority of nursing students will work

primarily with this population after graduation (Kaur et al., 2014).

As frontline caregivers, nurses play a pivotal role in addressing this challenge. Their ability to provide compassionate and competent care is critical. Therefore, equipping them with a robust knowledge of the aging process and fostering positive attitudes to combat ageism is essential (Chi et al., 2016). In this context, attitude—defined as a sentiment toward something or someone (Karis Allen et al., 2021)—In this context, attitude—defined as a sentiment toward something or someone (Karis Allen et al., 2021)—is a key factor. An individual's intention or willingness to perform an action, such as caring for older adults, depends significantly on their attitude toward that behavior (Dobrowolska et al., 2019; Muhsin et al., 2020). Moreover, changes in attitude can directly impact behavioral intentions (Kaur et al., 2014). If nursing students and educators hold positive attitudes, they are more likely to engage in and provide high-quality care for older adults.

However, the current evidence suggests a significant problem. Several studies on nursing students' knowledge of and attitudes toward older adults have reported knowledge deficits, negative attitudes, and a lack of motivation to care for this group (Hassan et al., 2021; Rababa et al., 2021). These negative attitudes, often stemming from ageism that manifests as stereotyping, prejudice, and discrimination (Organization, 2021), are prevalent even within the healthcare sector itself (Fernandes et al., 2022; Karis Allen et al., 2021). This is concerning, as healthcare professionals' negative attitudes can lead to poorer care and worse health outcomes for older adults (Chang et al., 2020). Furthermore, these negative attitudes are associated with a lack of interest among nursing students in pursuing careers in gerontology (Bahadir-Yilmaz, 2018; Hovey et al., 2017).

This gap between the growing need and current preparedness of the nursing workforce underscores a critical educational challenge. Developing curricula that effectively prepare both educators and nursing students to manage

and deliver healthcare for older adults remains an ongoing priority for nursing schools. The quality of care is profoundly influenced by nurses' knowledge, perceptions, and attitudes (de Almeida Tavares et al., 2015). Therefore, it is imperative to ensure that nursing students are educated with the necessary knowledge and foster positive attitudes to meet the complex healthcare demands of an aging population.

Therefore, this study aimed to compare the knowledge and attitudes toward aging and older adult care between nursing educators and students at Neyshabur University of Medical Sciences

Methodology

Study design: This quantitative study was conducted using a cross-sectional, analytical design.

Sampling and recruitment: The study was carried out among educators and nursing students at the Neyshabur University of Medical Sciences in 2022. A convenience sample of 186 participants (159 students and 27 instructors) was recruited.

Inclusion Criteria: Participants were recruited based on specific eligibility requirements. For nursing students, the criteria included: (a) willingness to participate in the study; (b) current enrollment in a nursing program at either the University of Medical Sciences or Azad University; (c) completion of at least one semester of clinical training in a hospital setting; and (d) physical and psychological wellness, as self-reported. For clinical instructors, the criteria included: (a) willingness to participate in the study; (b) a minimum of one semester of experience as a clinical instructor; and (c) physical and psychological wellness, as self-reported.

Exclusion Criteria: Participants were excluded from the study if they submitted incomplete questionnaires.

Data collection: Data collection was carried out using three questionnaires, which are as follows:

Section One: Personal and Social Characteristics Form for nursing educators included: age, gender, marital status, educational level, years of service, educational

background, experience of living with an elderly family member, interest in caring for elderly patients, and completion of training courses related to elderly care. Information related to students included: age, gender, marital status, experience of living with an elderly family member, and interest in caring for elderly patients.

Section Two: Iranian version of the Facts on Aging Quiz (FAQI): This questionnaire, developed by Palmore, was designed to assess individuals' knowledge and awareness regarding the physical dimensions, psychological factors, social and economic aspects of older adults, as well as misconceptions about elderly individuals (Palmore, 1977). This questionnaire consists of 3 dimensions and 25 items, with the breakdown of items for each dimension as follows:

- Individual's knowledge about existing misconceptions regarding the elderly: items 1 to 10 (10 items);
- Physical status: items 11 to 15 (5 items);
- Psychological and social status during aging: items 16 to 25 (10 items).

This questionnaire is formatted on a three-point scale, whereby a correct answer to each question receives a score of 1, and in case of an incorrect answer or "don't know," a score of 0 is assigned. The total score obtained from the questionnaire ranges from 0 to 25, with higher scores indicating better status and higher levels of awareness and attitude. This scoring method was designed with a focus on the number of correct answers without considering negative scoring.

Validity and Reliability: In Rejeh and colleagues' research in 2012, the psychometric properties of this scale were assessed in Iran. The Cronbach's alpha coefficient of the questionnaire was 0.81, indicating high internal consistency, and a correlation of 0.98 demonstrated appropriate reliability of the questionnaire (Nahid Rejeh et al., 2012). Additionally, in Frouzandeh and colleagues' research, the face validity of this instrument was confirmed by faculty members, and its reliability was reported as appropriate using the Cronbach's alpha method (Frouzandeh et al., 2018).

Section Three: Kogan's Attitudes toward Old People Scale (KAOPS)

Kogan's Attitudes toward Old People Scale (KAOPS) was first designed by Kogan in 1961 to examine nurses' attitudes toward elderly individuals (Kogan, 1961). This questionnaire contains 34 questions with two subscales: appreciation and prejudice. Each of the subscales in this questionnaire includes 17 questions. The statements in this questionnaire are scored on a six-point scale, with questions rated from 1 to 7. In odd-numbered questions (prejudice), 1 means "strongly agree" and 7 means "strongly disagree," while in even-numbered questions (appreciation), the reverse is true. The highest score an individual can obtain on this questionnaire is 238, and the lowest score is 34. If a participant's score is high and close to 238, they have a positive attitude toward elderly individuals and aging, whereas if they receive a low score close to 34, this indicates a negative attitude toward elderly individuals and aging. A score of 102 is considered a neutral attitude toward elderly individuals. In repeated studies, this scale has been recognized as a valid and reliable instrument for measuring individuals' attitudes toward elderly people. Cronbach's alpha coefficient for positive statements has been reported as 86%, and for negative statements as 85%. The overall Cronbach's alpha coefficient for the scale varies from 79% to 87% across different studies. The Cronbach's alpha coefficient in the Iranian version of this instrument has been reported as 83% for the overall scale (Sanagoo et al., 2012). In Rejeh and colleagues' study, the reliability and validity of Kogan's questionnaire in Iran were confirmed. They reported Cronbach's alpha coefficient as 83% for the prejudice subscale and 86% for the appreciation subscale (Rejeh et al., 2012).

Ethical considerations: All methods in this study adhered to the Declaration of Helsinki and its revisions, as well as the ethical standards of the institutional research committee. Before data collection, ethical approval was obtained from the Ethics Committee at Neyshabur University of Medical Sciences (IR.NUMS.REC.1401.028).

Data analysis: SPSS version 26 was employed for analyses. Descriptive statistics (means, standard deviations, frequencies) provided participant characteristic summaries. Normality was tested with Shapiro-Wilk tests and visual approaches (histograms, Q-Q plots). For normally distributed variables, independent t-tests and one-way ANOVA analyses are applied; for non-normally distributed variables, Mann-Whitney U and Kruskal-Wallis tests analyses used. Pearson's (normally distributed) or Spearman's (non-normally distributed) correlation coefficients assessed associations between knowledge and attitude scores. Chi-square or Fisher's exact tests tested categorical associations. Significance was $\alpha = 0.05$, with effect sizes (Cohen's d) provided for significant key comparisons. Subgroup analyses by role (student/instructor) and demographic variables. A post-hoc power analysis verified statistical power ≥ 0.80 for primary outcomes.

Results

Participant Characteristics

The study included 186 participants: 159 nursing students (85.5%) and 27 nursing educators(14.5%). The sample comprised 106 females (57.0%) and 80 males (43.0%). Students had a mean age of 24.3 years (SD = 4.1), while educators were older with a mean age of 38.7 years (SD = 5.6). Most students

were single (83.0%, $n = 132$), whereas the majority of educators were married (92.6%, $n = 25$). Among students, 86.8% were pursuing bachelor's degrees, 12.9% master's degrees, and 0.6% doctoral degrees.

Regarding experience with elderly care, 47.2% of students ($n = 75$) and 74.4% of educators($n = 19$) reported having lived with elderly individuals. Only 15.7% of students ($n = 25$) and 14.8% of educators($n = 4$) had completed formal geriatric training courses. Interest in elderly care was expressed by 37.7% of students ($n = 60$) and 66.7% of educators($n = 18$).

As shown in Table 1, nursing educators demonstrated numerically higher scores in both knowledge and attitudes compared to students, though these differences were not statistically significant.

None of the demographic or experiential factors examined showed significant associations with knowledge or attitude scores in either group, as detailed in Table 2.

Knowledge and Attitude Scores

Overall Study Results

- **Students:** Knowledge score: 10.93 ± 3.30 ; Attitude score: 126.71 ± 20.43
- **Instructors:** Knowledge score: 12.07 ± 3.23 ; Attitude score: 128.22 ± 11.96

Comparison Between Groups

Table 1: Comparison of Knowledge and Attitude Scores Between Students and Instructors

Variable	Students (n=159)	Educators(n=27)	t-value	p-value	95% CI
Knowledge Score	10.93 ± 3.30	12.07 ± 3.23	1.657	0.099	-0.217 to 2.491
Attitude Score	126.71 ± 20.43	128.22 ± 11.96	0.372	0.711	-6.488 to 9.499

Factors Influencing Knowledge and Attitudes

Table 2: Demographic and Experiential Factors Associated with Knowledge and Attitude Scores

Factor	Category	Students (n=159)				Educators (n=27)			
		Knowledge	p-value	Attitudes	p-value	Knowledge	p-value	Attitudes	p-value
Age Group	18-25 years	10.73 ± 3.1	0.570	127.5 ± 14.2	0.048	-	0.808	-	0.746
	26-35 years	11.5 ± 3.5		129.2 ± 15.8		12.2 ± 3.2		128.7 ± 8.9	

	>35 years	12.1 ± 2.8		125.4 ± 32.1		12.0 ± 3.8		127.8 ± 15.2	
Gender	Female	10.91 ± 3.3	0.913	127.7 ± 19.9	0.483	12.93 ± 2.98	0.125	127.6 ± 9.5	0.769
	Male	10.97 ± 3.32		125.3 ± 21.2		11.0 ± 3.3		129.0 ± 14.8	
Marital Status	Married	11.07 ± 2.8	0.814	126.7 ± 32.4	0.997	12.2 ± 3.2	0.485	128.0 ± 12.4	0.832
	Single	10.9 ± 3.4		126.7 ± 17.1		10.5 ± 3.5		130.0 ± 0	
Education	Bachelor	10.7 ± 3.39	0.246	126.9 ± 17.6	0.557	-	0.145	-	0.459
	Master/PhD	12.2 ± 2.4		126.8 ± 32.1		11.7 ± 3.1		127.5 ± 12.8	
Elderly Experience	Yes	10.7 ± 2.9	0.494	127.0 ± 20.6	0.608	12.05 ± 3.2	0.959	126.9 ± 11.5	0.404
	No	11.1 ± 3.5		126.4 ± 20.3		12.1 ± 3.4		131.2 ± 13.0	
Geriatric Training	Yes	11.5 ± 3.5	0.311	133.2 ± 11.4	0.079	11.2 ± 3.3	0.591	125.0 ± 3.8	0.631
	No	10.8 ± 3.2		125.3 ± 21.6		12.2 ± 3.2		128.6 ± 12.8	
Interest in Elderly Care	Yes	11.3 ± 3.5	0.221	129.6 ± 13.3	0.155	11.5 ± 3.5	0.246	126.9 ± 13.9	0.443
	No	10.68 ± 3.1		124.9 ± 23.6		13.1 ± 2.4		130.7 ± 6.3	

Correlation Analysis

The correlation analysis revealed a weak, non-significant positive correlation between knowledge and attitude scores across all participants ($r = 0.031$, $p = 0.678$). This suggests that knowledge and attitudes toward elderly care operate relatively independently in this sample of nursing students and instructors.

Discussion

The present research investigated the knowledge and attitudes of instructors and nursing students regarding older adults. The average knowledge score reflects a moderate degree of comprehension. This aligns with earlier research conducted in Saudi Arabia, which indicated that the overall knowledge was low (Alqahtani et al., 2022; Hammad et al., 2025). Likewise, another study corresponds with our findings, showing that nursing students possess inadequate knowledge regarding older adults, as most students exhibited unsatisfactory knowledge levels (Muhsin et al., 2020). Additionally, a recent study conducted in Singapore revealed that nursing students possess a moderate comprehension of aging (AMA et al., 2025). This highlights the

necessity for reforms in nursing education, stressing the significance of geriatric care and directing curriculum enhancements to fill these knowledge voids (Alqahtani et al., 2022; King et al., 2013; Muhsin et al., 2020). A closer examination of the students' responses on this scale allowed for the recognition that learning about aging should extend past biological aspects. Teaching enhancement should encompass learning in the psychological, social, and anthropological aspects of aging. As earlier research supports (Fernandes et al., 2022; Hovey et al., 2017), it is necessary to rethink the curricula and guide the syllabus to improve students' knowledge and avoid prejudice, stereotyping, and discrimination. As a result, increasing knowledge leads to improved attitudes toward older adults (Castro et al., 2023).

The results of this study indicated that nursing students and educators showed less favorable attitudes toward older adults. Numerous studies conducted in Egypt, Jordan, and Saudi Arabia (Alqahtani et al., 2022; Hweidi & Al-Obeisat, 2006; Rababa et al., 2021) revealed that most students exhibited more negative attitudes toward older adults compared to those

in our research. Nursing education is anticipated to positively influence attitudes towards older adults(Castro et al., 2023). Attitudes are associated with the type of experiences, positive or negative, that educators and students have in contact with older adults; bad experiences reflect worse attitudes and representations(Dahlke et al., 2020). Education positively changes attitudes towards older people, and as a result, it is considered necessary to increase training on ageing and geriatric care for nurses both as students and educators(Basturk & Solpan, 2022).

The results show that factors affecting knowledge and attitudes towards aging. Regarding factors affecting knowledge and attitudes towards aging, the results show that male nursing students and instructors showed more negative knowledge and attitudes towards the elderly compared to females. These findings contrast with earlier research(Hweidi & Al-Obeisat, 2006; Muhsin et al., 2020). Of course, this result is somewhat predictable because it is expected that women's attitudes towards the phenomenon of aging will be more positive with the maternal role imposed by society. Further studies are necessary to explore the root causes of these gender differences, as tackling these concerns may aid in minimizing adverse behaviors in elderly care.

Experience working with older adults and a family background in caregiving were important indicators of increased knowledge scores. This could be attributed to the idea that direct interaction with elderly individuals improves students' comprehension of their needs and difficulties, aligning with the results of Mohammed et al(Mohammed & Omar, 2019). According to Castro et al. (2023), students who engaged in knowledge development and had more interactions with older adults, whether in healthcare settings or community health, exhibited improved attitudes toward the elderly, which correlated with their growing technical and scientific independence

(Castro et al., 2023). Due to their history of consistent interaction with the elderly both in the past and present, nurse educators'

socialization was crucial in shaping their positive views and attitudes toward older adults.

This research demonstrated that nursing students and faculty possess some knowledge and not very positive attitudes about older people. Significant gaps in knowledge exist and extend beyond biological facts to include psychological, social, and cultural concepts about aging. Significant predictor factors include gender differences, such that males possess more negative attitudes. Experience working with older people and a history of caring for family members has a positive impact on knowledge and attitudes. These results indicate significant shortcomings that might decrease the quality of older people's care.

The research requires an immediate change in nursing education curricula. Curriculum transformations require additions regarding older individuals, combating ageist biases and stereotyping, and experiential learning through clinical rotations, simulation exercises, and community placements. Transformations are essential to equip students to be confident and capable in the care of older individuals while developing an understanding and positive disposition regarding aging people.

Despite these studies having valuable insights for nursing practice and education, some limitations, like cross-sectional study designs and a single-campus site suggest further multi-campus studies employing longitudinal designs and integrating qualitative research designs. These studies highlight the urgent need for transformative reform in nursing education to provide competent healthcare professionals capable of meeting older people's sophisticated needs effectively, which will bring improved quality geriatric care and positive experiences in aging within healthcare facilities.

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