

RESEARCH ARTICLE 2

Knowledge, attitude, practice, and associated factors towards older adults' care among nurses in a selected hospital in the North-Central Province of Sri Lanka

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Abstract

Introduction: The global ageing population presents unique challenges for healthcare systems, particularly in Sri Lanka, where the proportion of older adults is projected to reach 25% by 2041. Nurses play a crucial role in imparting essential knowledge, fostering positive attitudes, and promoting effective practices in caring for older adults. This study aimed to assess the nurses' knowledge, attitudes, and practices regarding older adults, as well as their associated factors in a selected hospital in Sri Lanka.

Methods: A descriptive cross-sectional study was conducted among 125 nurses working at surgical and medical wards at Polonnaruwa Teaching Hospital, Sri Lanka. Data were collected using self-administered questionnaires including the Knowledge of Older Patients Quiz (KOP-Q), modified Kogan's Attitude Scale, and a pre-tested researcher-developed practice questionnaire (Cronbach's alpha- 0.747). Data was analysed using descriptive and inferential statistics (significance at $P < 0.05$) in SPSS Version 25.

Results: The majority of participants were female (91.2%, $n=114$), aged 20–30 years (53.6%, $n=67$), held a diploma in nursing (68.8%, $n=86$), and had less than 10 years of experience (73.6%, $n=92$). Only 9.6% ($n=12$) had specialised training in the care of older adults. Most (90.4%, $n=113$) had moderate knowledge (mean 18.02 ± 2.57 , range 0–30, (good (≥ 21), moderate (15–20), and poor (< 15)), 94.4% ($n=118$) had positive attitudes (mean 92.91 ± 7.94 , range 26–156), and 76.8% ($n=96$) had good practices (mean 16.24 ± 1.80). Significant factors for knowledge included age ($p=0.003$), gender ($p=0.009$), education ($p=0.019$), and experience ($p=0.006$). Attitudes were influenced by age ($p=0.001$), experience ($p < 0.000$), training ($p=0.045$), and having older adults at home ($p=0.020$). Practices were associated with marital status ($p=0.007$), education level ($p=0.001$), training ($p=0.045$) and having an older adult at home ($p=0.020$). Knowledge and practice showed a weak positive correlation ($r=0.271$, $p=0.002$).

Conclusions: While nurses demonstrated moderate knowledge, positive attitudes, and good practices in the care of older adults, specialised training remains limited. Key factors influencing knowledge, attitudes, and practices include age, education, experience, and the presence of older adults at home. Strengthening geriatric training programs can enhance nursing competence and improve care for older adults.

Keywords: knowledge, attitude, practice, associated factors, older adults, nurses

Introduction

The global population is ageing, and the older adult population is rising fast. Population ageing is a major public health concern, particularly in low- and middle-income countries [1]. The World Health Organisation (WHO) defines older adults as those aged 60 years or older, and it estimates that the population aged 60 and older will exceed two billion by 2050. This demographic shift is driven mainly by increased life expectancy, decreased fertility, and advances in medical care, including health promotion and preventive treatments [2]. As the proportion of older adults increases, healthcare systems must adapt to address the complex and unique physical, psychological, and social needs of this population. Effective geriatric care requires coordinated efforts, including workforce development, financial investment, and supportive health policies [3].

Sri Lanka is experiencing one of the fastest ageing trends in South Asia. The proportion of older adults rose from 5.3% in 1953 to 10.8% in 2003, and it is projected that by 2041 nearly one-fourth of the national population will be over 60 years of age [4,5], posing significant challenges for the healthcare sector [5]. However, healthcare services for older adults remain underdeveloped. There is a lack of specialised geriatric training in nursing education and a limited institutional focus on elderly care [6]. Given that nurses are at the forefront of patient care, their knowledge, attitudes, and practices (KAP) play a crucial role in ensuring high-quality care for older adults. Understanding the factors influencing nurses' KAP is essential for developing effective strategies to enhance the delivery of geriatric care [7].

Previous studies have identified significant gaps in nurses' knowledge and attitudes toward the care of older adults. Research in Turkey and Ethiopia revealed that over 60% of nurses had inadequate knowledge about geriatric care, with misconceptions regarding ageing-related conditions such as dementia, urinary incontinence, and fall prevention [8]. In Sri Lanka, while most nurses were knowledgeable about preventing falls in older patients, only 58% were aware of rehabilitative interventions for urinary incontinence [9]. Furthermore, attitudes toward older adults' care remain mixed, with studies reporting that many nurses perceive geriatric patients as less desirable to work with compared to younger populations [6]. In Sri Lanka, the lack of geriatric-specific content in nursing curricula exacerbates these problems. These gaps in knowledge and attitudes may influence clinical practice, potentially affecting the overall quality of care provided to older adult patients. Further supporting this initiative, previous studies have emphasised the need to investigate factors affecting nurses' KAP regarding older adults' care [7].

Despite these challenges, research on nurses' KAP regarding geriatric care in Sri Lanka remains scarce, particularly in health care institutions in rural and agrarian regions. Previous studies have primarily focused on urban or tertiary-care hospitals, leaving gaps in knowledge about regional healthcare settings. Polonnaruwa Teaching Hospital, situated in the North Central Province of Sri Lanka, provides care to a rural population with limited access to specialised geriatric services. Studying nurses in this setting is therefore vital for capturing the realities of geriatric care in less-resourced areas and for identifying regionspecific training needs. Addressing this gap, the present study aimed to assess the current levels of knowledge, attitudes, and practices of nurses toward the care of older adults and identify the factors influencing these aspects among nurses working at Polonnaruwa Teaching Hospital, Sri Lanka. By understanding the current state of nursing care for older adults, this study seeks to provide valuable insights into the strengths and deficiencies in nursing education and practice. The findings will inform healthcare policymakers, educators, and hospital administrators in designing specific actions, including specialised geriatric training and professional development programs, to enhance the quality of older adults' care in Sri Lanka.

Methodology

A descriptive cross-sectional study was conducted to assess the KAP and associated factors regarding older adults' care among nurses at Polonnaruwa Teaching Hospital, Sri Lanka. A total of 125 nurses from medical and surgical wards were recruited using convenience sampling. Data was collected using a structured, pretested self-administered questionnaire comprising three parts. Knowledge was assessed using the Knowledge about Older Patients Quiz (KOP-Q), a validated 30-item true/false instrument covering six domains: normal ageing, geriatric conditions, age-related signalling problems, interventions, family involvement, and distinguishing vulnerable versus older patients. Attitudes toward older adults were measured using a modified version of the Kogan's Attitudes Toward Old People (KAOP) Scale. In this study, 26 items were included (13 positive and 13 negative statements) and rated on a 6-point Likert scale (1 = strongly disagree to 6 = strongly agree). Negatively worded items were reverse-scored so that higher scores indicated more positive attitudes. Internal consistency was evaluated separately for the positive items ($\alpha = 0.914$) and negative items ($\alpha = 0.910$) subsets using Cronbach's alpha. Practice was assessed using a researcher-developed tool consisting of six items. Content validity was established through expert review by a senior nursing academic. The tool was pretested with 15 nurses to evaluate

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clarity, understandability, relevance, completion time, and internal consistency. The sample size for the pretest was selected in line with methodological recommendations that suggest 10–30 participants are adequate for pilot testing of survey instruments [8]. Minor modifications were made in response to participant feedback to improve item clarity. Reliability analysis of the final six-item practice tool demonstrated acceptable internal consistency (Cronbach's $\alpha = 0.747$). Knowledge scores were categorised as good (≥ 21), moderate (15–20), and poor (< 15), while attitudes and practice scores were classified as positive ($\geq$ mean), and negative ($<$ mean). Ethical approval was obtained from the Ethics Review Committee of KIU (KIU/ERC/24/258), and administrative approval was secured from hospital authorities. Informed written consent was secured from all participants. Data were analysed using SPSS version 25. Descriptive statistics were used to summarise demographic characteristics and KAP scores. Associations between demographic variables and KAP outcomes were tested using chi-square tests and Pearson correlation coefficients.

Results

Socio-demographic characteristics of participants

A total of 125 nurses participated in the study. The majority of participants were female (91.2%, $n=114$), married (69.6%, $n=87$), and had a diploma in nursing (68.8%, $n=86$). Only 31.2% ($n=39$) had a BSc in Nursing degree level education, and none of the participants held a master's degree qualification. More than half of the respondents (53.6%, $n=67$) were between 20–30 years old, while 29.6% ($n=37$) were aged 31–40 years, and only 3.2% ($n=4$) were above 50 years old. Regarding work experience, 73.6% ($n=92$) had less than 10 years of experience, 23.2% ($n=29$) had 10–20 years, and only 3.2% ($n=4$) had over 20 years of experience. The participants were nearly evenly distributed between medical wards (51.2%, $n=64$) and surgical wards (48.8%, $n=61$). Only 9.6% ($n=12$) had received specialised training in older adults' care, whereas 90.4% ($n=113$) had not. Additionally, 39.2% ($n=49$) reported having an older adult patient at home.

Knowledge about Older Patients Quiz (KOP-Q)

The levels of knowledge were identified using the Knowledge about Older Patients Quiz (KOP-Q), which consists of 30 true/false items. Each correct response was awarded one point, and incorrect or "don't know" responses were given a score of zero, resulting in a total possible score ranging from 0 to 30. To categorise knowledge levels, scores were converted into percentages and classified according to commonly used cut-offs in knowledge assessment

studies: good knowledge $\geq 70\%$ correct (21–30 points), moderate knowledge 50–69% correct (15–20 points), poor knowledge $< 50\%$ correct (< 15 points). The overall mean knowledge score was 18.02 ± 2.57 out of a possible 30. The majority of nurses (90.4%, $n=113$) demonstrated a moderate level of knowledge.

Knowledge was assessed using the Knowledge of Older Patients Quiz (KOP-Q). Based on the scoring criteria, a total score < 15 indicated a low level of knowledge, 15–20 a moderate level, and 21–30 a high level of knowledge. The majority of participants (90.4%) demonstrated a moderate level of knowledge, while 6.4% had a low level and only 3.2% had a high level of knowledge regarding the care of older adults.

Item-wise responses revealed several gaps in knowledge of geriatrics. While 98.4% ($n=123$) correctly identified that dementia patients are at greater risk of delirium, only 23.2% ($n=29$) recognised that sudden urinary incontinence in older patients could indicate a urinary tract infection. Additionally, 65.6% ($n=82$) incorrectly believed that bed rest is essential for recovery in older adult patients. Regarding fall risk assessment, 55.2% ($n=69$) correctly identified asking about falls in the past six months as a valid assessment method, whereas 44.8% ($n=56$) were unsure or incorrect. Moreover, 78.4% ($n=98$) recognised that medications can contribute to memory deficits, falls, and incontinence in older adults.

Kogan's Attitudes Toward Old People (KAOP)

The mean attitude score of 92.91 ± 7.94 , with 94.4% ($n=118$) of nurses demonstrating a positive attitude (≥ 92.91) and 5.6% ($n=7$) a negative attitude (< 92.91). The mean item score was 3.57 ($SD=0.31$; range 2.73–4.58), indicating moderately positive attitude. Internal consistency was acceptable for the positive ($\alpha = 0.914$) and negative ($\alpha = 0.910$) item subsets, supporting their use as reliable subscales in this study.

Attitudes were assessed using Kogan's Attitude Toward Older People Scale. Scores were categorised as positive or negative based on the total score obtained, with higher scores indicating more favourable attitudes. The majority of participants (94%) demonstrated a positive attitude toward the care of elderly patients, while only 6% had a negative attitude.

When examining item-level responses, 34.4% ($n=43$) agreed that most older people complain excessively about the younger generation, while 50.4% ($n=63$) felt that older adults require more love and reassurance than other age groups. Additionally, 42.4% ($n=53$) agreed that most older adults maintain a clean and attractive home.

Practice-related results

The assessment of nurses' practices toward older adults' care showed generally positive engagement in key caregiving aspects. The mean practice score was 16.24 ± 1.80 (range 6–18), with higher scores indicating better practice. Using the sample mean as the cut-off (total score ≥ 16.24 = good practice; < 16.24 = poor practice), 95.2% (n=102) of nurses demonstrated good practice. Most nurses (n=97, 77.6%) encouraged older adults to eat adequately, assisting them with feeding when necessary. Additionally, the majority (n=116, 92.8%) of the nurses ensured that medications were administered on time. Personal hygiene and grooming were also well maintained, with 78.4% (n=98) frequently assisting older adults in these areas. However, assisting in mobility showed a relatively lower level of adherence, with 45.6% (n=57) actively encouraging exercise among older adults in their daily lives. Family involvement in patient care discussions varied, as 37.6% (n= 47) reported that they sometimes engaged the older adults in lively discussion to help them stay socially stable, while 62.4% (n=78) always included them.

Associations between demographic variables and KAP scores

The study identified several significant associations between nurses' socio-demographic characteristics and their KAP toward older adults' care. A significant association was

found between knowledge level and age ($\chi^2=20.212$, $p=0.003$), and educational qualifications ($\chi^2=7.973$, $p=0.019$). When considering attitudes, years of nursing experience ($\chi^2=15.961$, $p < 0.000$) and having an older adult's family member at home ($\chi^2= 5.428$, $p=0.020$) were significantly associated with attitudes. Similarly, significant association was observed between specialised training in older adults' care and practice scores ($\chi^2= 4.010$, $p=0.045$). Nurses who had received formal training in geriatric care were significantly more likely to engage in best practices, such as assisting with feeding, ensuring medication adherence, and encouraging mobility.

Correlation analysis revealed a significant positive association between knowledge and practice ($r=0.271$, $p=0.002$), indicating that higher knowledge scores were associated with better practices in the care of older adults. However, the strength of this association was weak, suggesting that knowledge accounted for only a small proportion of the variance in practice. This finding should therefore be interpreted with caution, as other contextual or organisational factors may also influence nurses' practices. A weak positive correlation was observed between knowledge and attitudes ($r=0.163$, $p=0.069$), but this did not reach statistical significance. No significant correlation was found between attitudes and practice ($r=-0.012$, $p=0.894$), suggesting that although nurses' attitudes toward older adults varied, these attitudes did not directly translate into differences in caregiving behaviour.

Table 1. Demographic characteristics of the participants

		Frequency N=125	Percentage (%)
Marital status	Married	87	69.6
	Unmarried	36	28.8
	Widow	2	1.6
Nationality	Sinhala	125	100.0
Educational level	Diploma In Nursing	86	68.8
	BSc. In Nursing	39	31.2
	MSc in Nursing		
Years of nursing experience	below 10	92	73.6
	10-20	29	23.2
	above 20	4	3.2
Working unit	Medical ward	64	51.2
	Surgical ward	61	48.8
Working Hours (per week)	below 36	8	6.4
	37-56	84	67.2
	above 56	33	26.4
Special training regarding caring for older adults	yes	12	9.6
	no	113	90.4
Any older adults at your home	yes	49	39.2
	no	76	60.8

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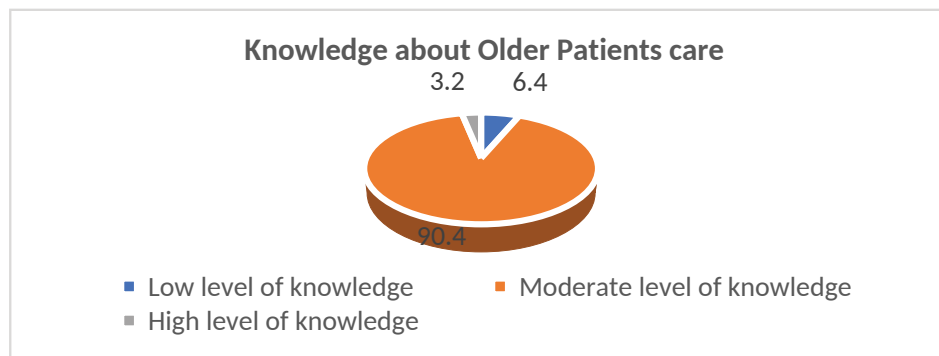


Figure 1. Levels of knowledge about care for older patients among participants.

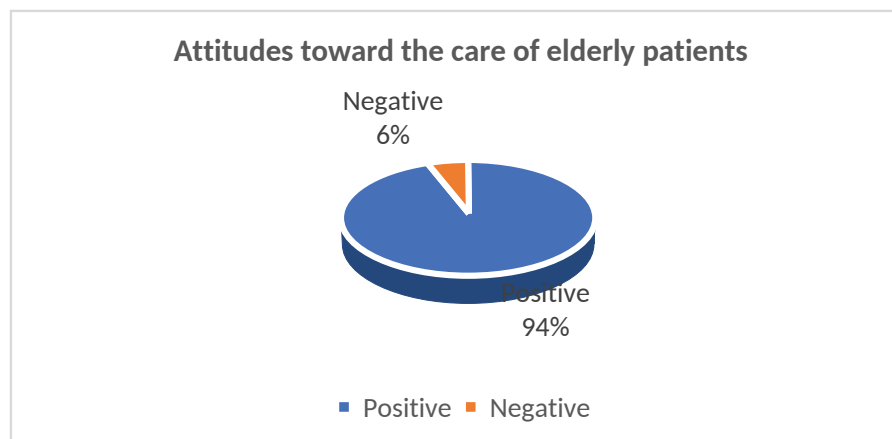


Figure 2. Attitudes toward the care of elderly patients among participants.

Discussion

Knowledge of older adult patient care

The study found that the majority of nurses (90.4%) had a moderate level of knowledge regarding patient care for older adults, while only 3.2% demonstrated high knowledge. These findings are consistent with studies conducted in Turkey [8] and Ethiopia [9], in which 61% and 69% of nurses, respectively, had insufficient knowledge of geriatric care. Similarly, studies in Ethiopia found poor knowledge levels among nurses, with 71.3% in Addis Ababa, 62.8% in West Shoa, and 57.3% in Bahir Dar demonstrating inadequate knowledge [10,11]. In contrast, research conducted in Portugal reported that nurses in intensive care units had significantly higher knowledge levels regarding the care of older adults [12]. This disparity could be due to differences in nursing curricula, the availability

of geriatric training, and the integration of gerontological nursing education into undergraduate programs. The current study reinforces these gaps, particularly regarding misconceptions about ageing, urinary incontinence, and fall risk assessments. These findings suggest the need for specialised geriatric training to improve nurses' competence in older adults' care.

Attitudes toward older adult patient care

The current study revealed that 94.4% of nurses had positive attitude toward older adults' care. These results differ from previous findings from Ethiopia, where 61% of nurses had unfavourable attitudes toward older adults [9]. Similarly, in Bangladesh, 36.2% of nurses demonstrated negative attitudes toward geriatric care, despite recognising the need for specialised training [13]. However, a Sri

Lankan study by Rathnayake et al. (2016) [6] among nursing students reported that 59% had slightly positive attitudes, while 45% had slightly negative attitudes toward older adults' care, somewhat reinforcing the findings of the current study. Notably, many of the international studies have reported more positive attitudes in this aspect, which aligns with the current study. Research conducted in Canada and Australia found that nurses with prior experience in geriatric care had better attitudes [14]. Similarly, Portuguese nurses demonstrated more positive attitudes after exposure to older adults in hospital settings [12]. The difference in attitude levels may be due to cultural perceptions of ageing, exposure to older adult patients, and the extent of gerontological training available. The current study also found a significant association between having an older adult family member at home and a more positive attitude ($\chi^2=5.428$, $p=0.020$), which is consistent with global findings that personal experiences with older adults improve perceptions of ageing.

This study found that knowledge was significantly associated with practice but not with attitudes, suggesting that practical caregiving behaviours may be more directly influenced by nurses' knowledge than by their underlying attitudes. Attitudes also showed no correlation with practice, indicating that although nurses generally held positive views of older adults, these did not necessarily translate into improved care without adequate knowledge and skills. Previous studies have highlighted that positive attitudes alone often fail to influence practice when constrained by heavy workloads, time pressures, or limited geriatric-specific training and institutional support [17–19]. Similar observations have been reported in previous studies, highlighting that knowledge is often a more proximal determinant of practice than attitudes [19–21]. Furthermore, the mean knowledge score in this study was relatively low, highlighting the need for strengthening gerontological content in nursing education and training. The lack of correlation between attitudes and practice may therefore reflect the gap between what nurses know, what they believe, and what they can implement in real-world clinical settings. In addition, social desirability bias may lead participants to report more favourable attitudes than they demonstrate in practice. These factors may explain why attitudes and practices were not significantly correlated in the present study.

Practices toward older adult patient care

Despite gaps in knowledge and attitudes, the current study found that nurses had good practices in older adults' care. The majority (92.8%) ensured timely medication administration, 84.0% assisted with hygiene and grooming, and 77.6% encouraged adequate nutrition. These findings are consistent with existing studies in Sri Lanka and Ethiopia, which found that most nurses actively engaged

in fundamental geriatric care practices despite knowledge deficits [9]. However, there were deficits in nurses' practices in mobility promotion and this suggests a need for targeted interventions to emphasise its importance in preventing complications such as pressure ulcers and muscle atrophy.

Factors associated with KAP

Several significant associations were observed between demographic factors and nurses' knowledge, attitudes, and practices. The study found that age and educational qualifications were associated with knowledge scores ($p < 0.05$). And a positive correlation between knowledge and practice. This finding is consistent with previous studies in Portugal [12] and Canada [14], which have shown that advanced education positively influences geriatric care competence. Similarly, years of experience were associated with the attitudes toward older adults' care, which was in par with findings from Ethiopia and Bangladesh which revealed that attitudes improve with years of practice [9,13]. Additionally, nurses' practices were associated with specialised training, which was consistent with findings from previous research that highlighted the importance of continuous professional development in improving nursing care for older adults [15]. Interestingly, no significant correlation was found between attitude and practice ($p > 0.05$), suggesting that while nurses' attitudes toward older adults varied, these perceptions did not necessarily translate into differences in their caregiving behaviours. This finding aligns with the study by Rathnayake et al. (2016)[6], which reported that although nursing students expressed mixed attitudes toward working with older adults, their clinical engagement remained relatively consistent.

Implications for nursing practice and education

The findings of this study highlight the need for enhanced geriatric training in nursing curricula and continuous professional development programs. Despite demonstrating moderate knowledge, nurses still exhibited misconceptions about ageing-related conditions, emphasising the necessity for structured education on geriatric syndromes and evidence-based care strategies. Additionally, attitude-based interventions, such as experiential learning and increased exposure to older adults, may help improve perceptions of ageing and reduce ageism in healthcare settings. From a policy perspective, healthcare institutions should consider integrating specialised geriatric training into in-service education programs, ensuring that nurses receive ongoing training in older adults' care. Furthermore, fostering interdisciplinary collaboration with geriatric specialists and providing workplace support systems could enhance both knowledge and practical application in geriatric nursing care.

Limitations and future research directions

This study has several limitations. The study was conducted in a single hospital, which may limit the generalisability of findings to broader healthcare settings. Additionally, self-reported questionnaires may introduce response bias, as participants may have provided socially desirable answers. A total of 125 nurses from the medical and surgical wards were recruited using convenience sampling. While the sampling method facilitated participation within a manageable timeframe, it may introduce selection bias. Moreover, future research, including qualitative approaches, needs to be conducted to gain deeper insights into nurses' perceptions and experiences in geriatric care. Further studies should also investigate the effectiveness of targeted educational interventions for improving geriatric knowledge and attitudes among nurses. Longitudinal studies assessing changes in KAP following structured training programs could provide valuable insights into the long-term impact of geriatric education initiatives.

Conclusion

This study revealed the current levels of knowledge, attitudes, and practices regarding the care of older adults among nurses at a selected hospital in Sri Lanka. The findings emphasise the necessity of integrating geriatric education into nursing curricula, promoting specialised training, and fostering workplace support systems to enhance the quality of care for older patients. Addressing these gaps through targeted interventions could improve geriatric care outcomes in Sri Lanka's healthcare system.

Declaration Conflicts of Interest: Authors declare no conflicts of interest.

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