



Knowledge, Attitude, and Practice (KAP) of Emergency Nurses in Caring for Older Patients: A Case Study of Health Regions 11 and 12

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Abstract

This descriptive study aimed to explore the level of knowledge, attitude, and emergency nurses' practice in caring for older patients. Two-hundred and sixty-eight emergency department (ED) nurses were conveniently recruited from 3 tertiary care hospitals and 6 secondary care hospitals in health regions 11 and 12. The response rate of questionnaires was 76.49%. Data were collected by using questionnaires, including demographic data, Knowledge of Geriatric Emergency Care (KGEC), Attitude of Older Patient Questionnaire (AOPQ), and Practice for Geriatric Emergency Care (PGEC). The content validity index values of the KGEC, AOPQ, and PGEC were 0.96, 0.92, and 0.99, respectively. The internal consistency reliability of KGEC using K-R 20 was 0.70, and the Cronbach's alpha coefficient values of AOPQ and PGEC were 0.81 and 0.94, respectively. The data were analyzed by using descriptive statistics. The findings of this study revealed that 46.30 % of participants reported their knowledge of geriatric emergency care at a moderate level, followed by a high level (27.32 %). The highest percent of participants reported a neutral attitude towards caring for older patients, accounting for 89.27 %, followed by a positive attitude, accounting for 10.24 %, while the practice for geriatric emergency care showed at a moderate level, accounting for 32.19 %, followed by a high level, accounting for 29.76 %. The study findings suggest that ED nurses should be better trained to advance their knowledge and motivate positive attitudes towards older patients. This could help ED nurses improve their geriatric emergency care practice.

Keywords: Older Patient, Emergency Department, Nursing Practice, Registered Nurse



Introduction

Older population is rapidly growing worldwide, having tripled from 260 million in 1980 to 761 million in 2021; this number is projected to reach 1.6 billion in 2050 (United Nations, 2023). In Thailand, about 13 million or 19.00 % of the total population in 2022 were people aged 60 or older, raising by 5.70 % from 13.20 % in 2010, and it is expected to exceed 19 million in the next two decades (Department of Older Person [DOP], 2022). Given this population change, the demand for emergency services among older people has increased since older people commonly encounter multiple conditions. As shown in the United States, about 15.00 – 15.80 % of older people visited the emergency department (ED) during 2015-2016 (Augustine, 2019). The national survey of emergency services in Thailand between 2016-2018 showed a higher percent of ED visits among older adults, which was 28.67 % (Lumjeaksuwan, Patcharasopit, Seksanpanit, Sritharo, Aeampuck, & Wittayachamnankul, 2022).

Older patients present ED visit rate in Baltimore City with more urgent and complex care needs than patients in younger aged group (Wang, et. al., 2015), resulting in negative patient outcomes, such as increased rate of ED revisits within 48 hours after discharge (Sri-on et al., 2016). To reduce poor service outcomes among older patients, competent healthcare providers, particularly nurses who take the vital role for patient's care at the ED are needed. Research studies exploring nurses' caring for older adults were mostly conducted in acute settings, but few studies were done in ED settings. For example, ED nurses reported their difficulties on providing a holistic approach for older patients (Deasey et al., 2014), communicating with cognitive impaired patients and dealing with family's needs and complex healthcare demands (Lennox, Braaf, Smit, Cameron, & Lowthian, 2019). These difficulties may lead to not only poor health outcomes for older patients but also further frustration of ED nurses due to lack of specialized skills to deal with these complexities.

Nurses' practice can be driven by knowledge and attitude since knowledge is a foundation of practice, and attitude is a driving force for people changing their behaviors. Existing evidence showed the positive correlations of knowledge ($r = .564, p < .001$) and attitude ($r = .724, p < .001$) with nurses' practice in caring for hospitalized elders (Kwon et al., 2013). However, the study's findings in Thai nurses regarding the correlations among Knowledge and attitude factors were not related to nurses' behavior in caring for the elderly ($p > .05$) (Arsavisate, Leethong-in, & Piyawattanapong, 2019). Thus, the exploration of knowledge, attitude, and nurses' practice in caring for older patients, particularly ED settings in Thailand is needed. The findings of this study could be used to guide the plan for improving ED services for older patients.



Purpose of the Study

This paper aimed to report the level of knowledge of geriatric emergency care, attitude of older patients, and ED nurses' practice in caring for older patients.

Conceptual Framework

A Knowledge-Attitude-Practice (KAP) theory and the literature review related to the emergency care for older patients were employed to guide this study. The KAP theory posits the changes in human practice that composes of three continuous processes, including acquiring knowledge, producing attitude, and forming practice (Protero, 1990 cited by Wang & Zhang, 2021). Among these three components, attitude can be influenced by knowledge, then drive practice or change behaviors (Wang & Zhang, 2021). The details of each component in this study are explained as the following:

Knowledge refers to understanding or comprehension of geriatric emergency care, consisting of general knowledge of aging and specific knowledge related to geriatric emergency care. General knowledge of aging includes aged-related physiological, psychological, and sociological changes, and complexity of care in older patients (Deasey, Kable, & Jeong, 2014; Melady, & Perry, 2018). Specific knowledge related to geriatric emergency care includes specific health conditions, geriatric assessments and care at the emergency department, referral or discharge, and family or caregiver's participation (Kihlgren et al., 2005).

Attitude refers to belief, perception, or opinion towards older patients and value of caring practice (Deasey et al., 2014). Based on the literature review, the perception that ED nurses have with older patients includes general aging characteristics, incontinence, use of medications, pain management, psychological status, decision-making, ageist stereotypes, discharge planning, and older patients at the emergency department (Deasey, Kable, Jeong, 2016; Dikken, et.al., 2016).

Practice refers to activities or behaviors that nurses perform for older patients at the ED. Based on the literature review, nursing practices compose of 10 components (Melady, & Perry, 2018; Society, Force, American College of Emergency Physicians, & Emergency Nurses Association, 2014), including (1) incorporation of general principle to address complex older patients for older patients, (2) adoption of a geriatric-specific approach (Melady, & Perry, 2018; Murdoch et al., 2015), (3) availability of equipment and supplies for older patients (Schoenenberger & Exadaktylos, 2014), (4) maintenance of awareness of atypical presentation, (5) use of multidisciplinary team for acute assessment and transitional care (Badawy et al., 2019; Cline 2015; Payne 2016), (6) assessment of acute presentation in the contexts of the patient's psychosocial needs, and caregiving



environment (Ferrell et al., 2018), (7) establishment of system for medical management, (8) use of palliative care principle in each assessment, (9) care quality improvement, and (10) education of emergency department staff about unique aspects of geriatric emergency care (American Geriatrics Society Expert Panel on Person-Centered Care et al., 2016; Brummel & Ferrante, 2018).

Research Methodology

This descriptive design study is a part of the research project entitled “ED Nurses’ Practice in Caring for Older Patients and Related Factors”.

Population and sample. The population in this study were emergency department (ED) nurses working at the hospitals in health regions 11 and 12. The samples in this study were conveniently recruited from three provincial hospitals and six community hospitals with the inclusion and exclusion criteria. The inclusion criteria included (1) working full-time at the ED at least 6 months, (2) being able to communicate in Thai, and (3) willing to participate in this study. The exclusion criteria included holding administrative position as a head nurse and having study leave during the time of data collection. Two hundred and sixty-eight ED nurses met the inclusion criteria, however, there were 205 ED nurses responding to the questionnaires, yielding the response rate of 76.49 %.

Ethical consideration. This study received the ethical approval from the Social and Behavioral Sciences Institutional of Review Board, Prince of Songkla University (SBS-IRB-PSU) issued PSU IRB 2021 - St - Nur 027 (Internal). This study also received permission from the director of each hospital where the data were collected. Participation in this study was voluntary and all participants had the right to refuse to take part in this study without penalty or loss of welfare. The data were kept confidential and used code to protect participants’ identity.

Data collection. After receiving the institutional Review Board approval, the researcher asked the permission for data collection from the director of each hospital, then contacted the key persons from each hospital to distribute the questionnaires to potential participants. The researcher allowed time for all participants to complete the questionnaires. Data were collected during October 2021 – October 2023 It took about 40 minutes to complete the questionnaires.

Research instruments. Research instruments in this study included 4 parts, including demographic data questionnaire, knowledge of geriatric emergency care (KGEC) questionnaire, attitude of older patient questionnaire, and practice for geriatric emergency care (PGEC) questionnaire.



Demographic data questionnaire. This questionnaire consists of 12 items, including age, gender, level of education, work experience, ED working experience, geriatric training, availability of geriatric medicine, availability of geriatric assessment tools, types of hospital, and percentage of geriatric emergency attendances.

Knowledge of geriatric emergency care (KGEC) questionnaire. The KGEC questionnaire was developed by the researcher. It consists of 30 items, categorized into two domains, including general knowledge about older patients (13 items) and specific knowledge related to geriatric emergency care (17 items). All items are measured as dichotomous (true/false) with every correct answer assigned 1 point and incorrect answer assigned 0 points. The summed score ranges in 0-30 points. Moreover, to increase awareness of one's personal knowledge level, the response of each item is combined with the scale that allows respondents to indicate their level of certainty regarding the answer given (0–100% certainty). The summed score was converted into 100 percent and divided into 5 levels including excellence (90.00 – 100.00 %), Good (80.00 – 89.99 %) average (70.00 – 79.99 %), low (60.00 – 69.99 %), and need improved (less than 60.00 %). The content validity index was 0.96, and the reliability testing using Kuder-Richardson 20 (KR-20) was 0.70.

Attitude of older patient questionnaire (AOPQ). This questionnaire was developed by Deasey et al. (2016). In this study, item numbers of 14, 24, and 29 are modified to fit with emergency situations. It consists of 30 items, categorized into nine dimensions, including general aging (4 items), incontinence (1 item), medication (2 items), pain management (2 items), psychological status (1 item), decision-making (2 items), ageist stereotypes (11 items), discharge planning (2 items), and older persons in the ED (5 items). Each item was answered on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Negative items as Item1, 5, 6, 8, 9, 10, 14, 15, 16, 20, and 21 were reversed score before analysis. The summed score ranging of 30 – 150 was converted to 100 percent and divided into 3 levels as positive attitude (> 80.00 – 100.00), neutral attitude (50.00 – 79.99 %), and negative attitude (< 50.00 %). The content validity index was 0.92, and the reliability testing using the Cronbach alpha coefficient was 0.81.

Practice for geriatric emergency care (PGEC) questionnaire. It was developed by the researcher by integrating the best practice of geriatric emergency care and geriatric emergency care guideline (Melady, & Perry, 2018; American College of Emergency Physicians, et al., 2014). It consists of 28 items, categorized into 10 domains, including (1) incorporation of general principle to address complex older patients for older patients (6 items), (2) availability of equipment and supplies for older patients (1 item), (3) adoption of geriatric-specific approach or rapid assessment and risk stratification (8 items),



(4) maintenance of awareness of atypical presentation (2 items), (5) use of multidisciplinary team for acute assessment and transitional care (4 items), (6) Establishment of system for medical management (2 items), (7) Assessment of acute presentation in the contexts of the patient's psychosocial needs, and caregiving environment (1 items), (8) Use of palliative care principle in each assessment (1 item), (9) Care quality improvement (2 items), and (10) Education of emergency department staff about unique aspects of geriatric emergency care (1 item). The response of each item was a 5-point Likert scale ranging from 1 (never practice) to 5 (every time). The summed scores ranging from 28-140 were divided into 3 levels as low (28.00 – 66.00 score), moderate (66.01 – 104.00 score), and high (104.01 – 140.00 score). The content validity index was 0.99, and the reliability testing using the Cronbach alpha coefficient was 0.94.

Data analysis. Descriptive statistics were used to analyze demographic characteristics, knowledge of geriatric emergency care, attitude of older patients, and ED nurses' practice in caring for older patients.

Results

Sample characteristics. 205 ED nurses participated in this study with the mean age of 35 (SD = 9.48, Range 23 – 59) year. Most participants were female (87.80%) and attained the educational level at a bachelor degree (97.07 %). More than half of participants had experience working for more than 10 years as a registered nurse (55.89%) and at the emergency department (50.24%). Most of participants reported trained in geriatric care (99.02%). For the emergency services, 51.10% of participants (106 persons) reported their hospitals at a secondary service level. The mean percentage of geriatric emergency attendances per day was 53.03 (SD=17.40, Range = 10-90) with 51.71 % of participants reported availability of geriatric assessment tools at the ED. However, about 95.60% (196 persons) reported no geriatric medicine at the ED. The details of sample characteristics are shown in Table 1.

Knowledge of geriatric emergency care. This study revealed the overall mean percentage of knowledge was 73.15 (SD = 8.96, range = 36.67 – 90.00). The highest percentage of ED nurses had geriatric emergency care knowledge at an average level, accounting for 46.30%, followed by a good level, accounting for 27.32% (Table 2).

Attitude of older patients. The participants in this study had a neutral attitude towards older patients (M = 73.15, SD = 8.96, Range = 46.67 – 87.33), accounting for 89.70%. Only 10.24 % of the respondents had a positive attitude towards older patients (Table 2).



ED nurses' practice in caring for older patients. The highest percentage of ED nurses reported their practice at a moderate level, accounting for 62.92 % with the overall mean score of 73.15 ($SD = 8.96$, Range = 36 – 140), followed by a high level, accounting for 33.17% (Table 2).

Table 1: Basic characteristics of the sample (N = 205)

Variable	Frequency (n)	Percentage (%)
Age (year) ($M = 35.0$, $SD = 9.48$, Range = 23-60)		
Gender		
Male	25	12.20
Female	180	87.80
Education level		
Bachelor's degree	199	97.07
Master's degree	6	2.93
Work experiences as a registered nurse (year) ($M = 13.19$, $SD = 9.11$, Range = 1-38)		
< 5 years	47	22.93
5 - 10 years	43	20.98
> 10 years	115	55.89
ED experiences ($M = 11.32$, $SD = 7.92$, Range = 1-37)		
< 5 years	56	27.32
5 - 10 years	46	22.44
> 10 years	103	50.24
Geriatric care training		
No	203	99.02
Yes	2	0.98
Hospital level		
Tertiary	99	48.29
Secondary	106	51.71
Availability of geriatric assessment tools		
No	196	95.60
Yes	9	4.40
Availability of geriatric medicine		



Variable	Frequency (n)	Percentage (%)
No	187	91.22
Yes	18	8.78

Percentage of geriatric emergency attendances ($M = 53.03$, $SD = 17.40$, $Range = 10-90$)

Table 2: Levels of knowledge of geriatric emergency care, attitude of older patients, and ED nurses' practice in caring for older patients (N = 205)

Level of study Variables	Frequency (n)	Percentage (%)
Knowledge of geriatric emergency care ($M = 73.15$, $SD = 8.96$, $Range = 36.67-90.00$)		
Excellence	3	1.46
Good	56	27.32
Average	95	46.30
Low	36	17.56
Need improved	15	7.36
Attitude of older patients ($M = 71.42$, $SD = 6.57$, $Range = 36.67-90.00$)		
Positive	21	10.24
Neutral	183	89.27
Negative	1	0.49
ED nurses' practice ($M = 96.59$, $SD = 18.14$, $Range = 36-140$)		
High (104.01- 140.00)	68	33.17
Moderate (66.01 – 104.00)	129	62.92
Low (28.00 – 66.00)	8	3.91

Conclusions and Discussion

The findings of this study indicated an average level of knowledge about geriatric emergency care, a neutral attitude, and a moderate level of practice in caring for older patients at the ED. The highest percentage of the participants showed an average level of knowledge regarding geriatric emergency care. This finding was in line with a study conducted in Ethiopia, which found that more half of the nurse participants had adequate knowledge regarding the geriatric care (Mitike, Yimam, Goshiye, & Kumar, 2023). It might be due to lack of geriatric care training available for the ED nurses. Adequate knowledge in caring for aging effect on practice in caring for older, this included training, experience, and attitude (Zeng, et al., 2019). Although more than 50 % of the participants in this study had experienced working in emergency department and been working as a registered nurse for more than 10 years, only two ED nurses (0.98%) had been trained for geriatric care. Thus,



the ED nurses should be well informed and trained about common problems, risk stratifications, and other issues related to the care for older patients.

The finding in this study also reflected a neutral attitude that almost all ED nurses perceived about older patients (89.27 %), however, only 10.27 % of the participants (21 persons) had a positive attitude. These findings were inconsistent with the integrative review study, which found that nurses had a negative attitude towards older patients, particularly geriatric characteristics, and care demand (Rush, Hickey, Epp, & Janke, 2017). The different findings might be related to knowledge which in this study is average, and lack of geriatric emergency care training. Knowledge can drive the attitude and further promote nursing practice (Yang, et. al., 2021). Thus, nurses who have a better knowledge in geriatric care are more likely to have a positive attitude towards elderly patients and increase nursing practice. In this study, more than half of ED nurses had a moderate level of nursing practice in caring for older patients (62.92%). Regarding this result, nurses might learn about geriatric emergency care by their work experiences, and as they grow older. there is a study indicated that less experience, negative attitude with inadequate knowledge, lack of training, working in non-clinical hospitals, and unavailability of guidelines with inadequate practices in caring for older adults were significantly associated (Mitike, et al., 2023).

This is the first study exploring knowledge, attitude, and nursing practice in caring for older patients at the emergency department in the South of Thailand. The study findings reflect the current situation in the way that ED nurses need to be trained to improve their knowledge and attitude, and ultimately improve their caring practice. The limitation in this study is a small sample size. Thus, the results may not be generalized to the population.

Recommendations

The findings in this study can guide nursing education and practice. The ED nurses need to be better trained to gain knowledge, attitude, and practice in caring for older patients at the emergency department. Future research should be conducted in a large population and explore factors predicting the ED nurses' practice in geriatric care.

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