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Nurses' clinical decision-making models in the care of older adults: A cross-sectional study

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Abstract

Clinical decision-making is referred to as a correct judgment based on knowledge and cognitive skills. It has an effective role in providing safe and effective nursing care. Often these decision-making skills are based on critical thinking and evidence-based practice. Therefore, due to the importance of the present issue, this study aimed to assess the nurses' clinical decision-making models in the care of older adults. This cross-sectional study was conducted on 384 nurses working in the teaching hospitals of Gorgan University of Medical Sciences in 2021. Data was collected by the standard questionnaire of clinical decision-making model. Pearson's correlation coefficient test was used to evaluate the relationship between clinical decision making and study variables. Also, Mann-Whitney U test was used to evaluate the difference between clinical decision making and study variables. The mean age and work experience of the participants were 32.2 (SD=1.5) and 9.1 (SD=1.7) years, respectively. The mean score of clinical decision-making among the nurses was 70.74 (SD=4.54). Most of the clinical decision-making models in nurses were found to be intuitive (75.5%). There was not a significant relationship between clinical decision-making model and the variables of age (P=0.47), work experience (P=0.16), and average working hours per month (P=0.93). Also, there was not a significant difference between the decision-making model and the variables of gender (P=0.6) and marital status (P=0.54). Considering the high level of clinical decision-making, it can be argued that correct decision-making makes the patient's recovery faster and reduces the length of hospital stay. The advantages of correct decision-making include reducing treatment costs and lowering environmental stress and contamination with hospital infections.

Keywords: Clinical Decision-Making, Nurses, Nursing, Aged, Elderly.

1 | Introduction

Nowadays, due to the improvement of living conditions and the provision of high-quality health and medical care, we are witnessing an increase in the life expectancy of older adults [1, 2]. It is predicted that the number of older adults in the world will reach to 2.1 billion by 2050 [3]. In Iran, surveys and statistical indicators also show the rapid growth of older adults in the population. It is predicted [4, 5] that in 2011 in Iran, we will witness a population explosion in the elderly age group [6]. This problem causes crisis and serious challenges for the elderly care in Iran [7].

The old age and its resulting biological and social changes would naturally cause disruption in the functioning of various body organs and gradual inability to perform activist of daily

living, manage personal affairs and play a social role [8]. In the meantime, the presence of underlying diseases in the elderly as well as the changes caused by the aging process in various body organs, including the immune system, can affect the nature and severity of clinical symptoms of the disease in the elderly [9, 10]. This issue highlights the importance of nurses in providing care and clinical services to older adults [11]. Clinical decision-making, as an important nursing activity, plays an important role in providing safe and effective clinical care to patients [12]. Clinical decision-making is a critical thinking process in choosing the best action to achieve desired goals [13]. Therefore, clinical decision-making is a complex process, which is based on discovering different solutions for different challenges [14, 15]. Studies show

that about 100,000 patients die as a result of wrong clinical decisions. The implementation of correct clinical decision-making prevents care-related problems and complications [16]. This high rate of mortality shows the importance of clinical decision-makings [17]. Clinical decision-making is also an essential part of nurses' professional duties, and can be defined as the analysis of information and making correct decision based on it before implementing them [18]. Clinical knowledge and skill are one of the most effective factors in clinical decision-making. Correct decision-making reduces the costs of care and treatment, and facilitates the correct use of available resources [19]. The use of care standards models and programs increases the quality of clinical care [20, 21]. Decision-making model can also be considered as an important and necessary clinical process in the care of patients, especially the older adults. Therefore, due to the importance of the present issue, this study aimed to assess the nurses' clinical decision-making models in the care of older adults.

2 | Methods

2.1 | Study design

This cross-sectional study was conducted on 384 nurses working in the teaching hospitals of Gorgan University of Medical Sciences in 2021. The environment of this research included the 5th Azar Hospital, Shaheed Sayyad Shirazi Hospital, and Taleghani Hospital in Gorgan, Iran.

2.2 | Ethics consideration

The ethics committee of Golestan University of Medical Sciences has given its approval to this study (IR.GOUMS.REC.1400.402). The participants gave informed consent after being informed of the current study's goals. It was made clear to participants that they could leave the study at any time.

2.3 | Inclusion and exclusion criteria

Inclusion criteria in the present research were included having at least a bachelor's degree in nursing and at least 6 months of work experience in a hospital. The exclusion criteria were included the research units' unwillingness to participate in this study.

2.4 | Sample size

The initial sample size of 390 was estimated with G*Power based on a significance level of 0.05, a power of 0.80, and a medium effect size. Of the questionnaires distributed to the 390 nurses, 384 questionnaires were returned (return rate 98.46%). One nurse refused participation because of a busy work schedule and lack

of interest in the research. There were no systemic differences between those who participated and those who did not. Thus, 384 questionnaires were included in the final analysis. The research samples were selected by convenience non-random method.

2.5 | Data collection

The data collection tools included a demographic information questionnaire (age, work experience, sex, marital status, and average working hours per month) and a clinical decision model questionnaire. The clinical decision-making questionnaire has 24 statements that measure the clinical decision-making ability of nurses with a five-point Likert scale. The scoring for statements with a positive semantic load is from 5 (always) to 1 (never) and vice versa for phrases with a negative semantic load. The reverse statements of this questionnaire include statements 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, and 23. The required time to complete this questionnaire is about 10 to 15 minutes, which was done in this study in the presence of the researcher to clear of any ambiguity [22]. This questionnaire has been used many times in national and international studies. The validity of this questionnaire was confirmed by 10 faculty members of the university. The reliability of this questionnaire was also confirmed by the retest method with a correlation coefficient of 0.80 [22].

2.6 | Statistical analysis

The data were assessed via SPSS software (version 21.0, SPSS Inc., Chicago, IL, USA). Pearson's correlation coefficient test was used to evaluate the relationship between clinical decision making and study variables. Also, Mann-Whitney U test was used to evaluate the difference between clinical decision making and study variables. A significance level of 0.05 was considered.

3 | Results

3.1 | Participants

The mean age and work experience of the participants were 32.2 (SD=1.5) and 9.1 (SD=1.7) years, respectively. Among the participants, 51.3% were female and 56.3% were married. The average working hours of nurses was 168.7 (SD=19.0) hours per month.

3.2 | Nurses' clinical decision-making models in the care of older adults

The results of this research showed the mean score of clinical decision-making among the nurses was 70.74 (SD=4.54). Most of the clinical decision-making models in nurses were found to be intuitive (75.5%) (Figure 1). Based on the Pearson's correlation

coefficient, there was not a significant relationship between clinical decision-making model and the variables of age ($P=0.47$), work experience ($P=0.16$), and average working hours per month

($P=0.93$). Also, based on the Man-Whitney U test, there was not a significant difference between the decision-making model and the variables of gender ($P=0.6$) and marital status ($P=0.54$).

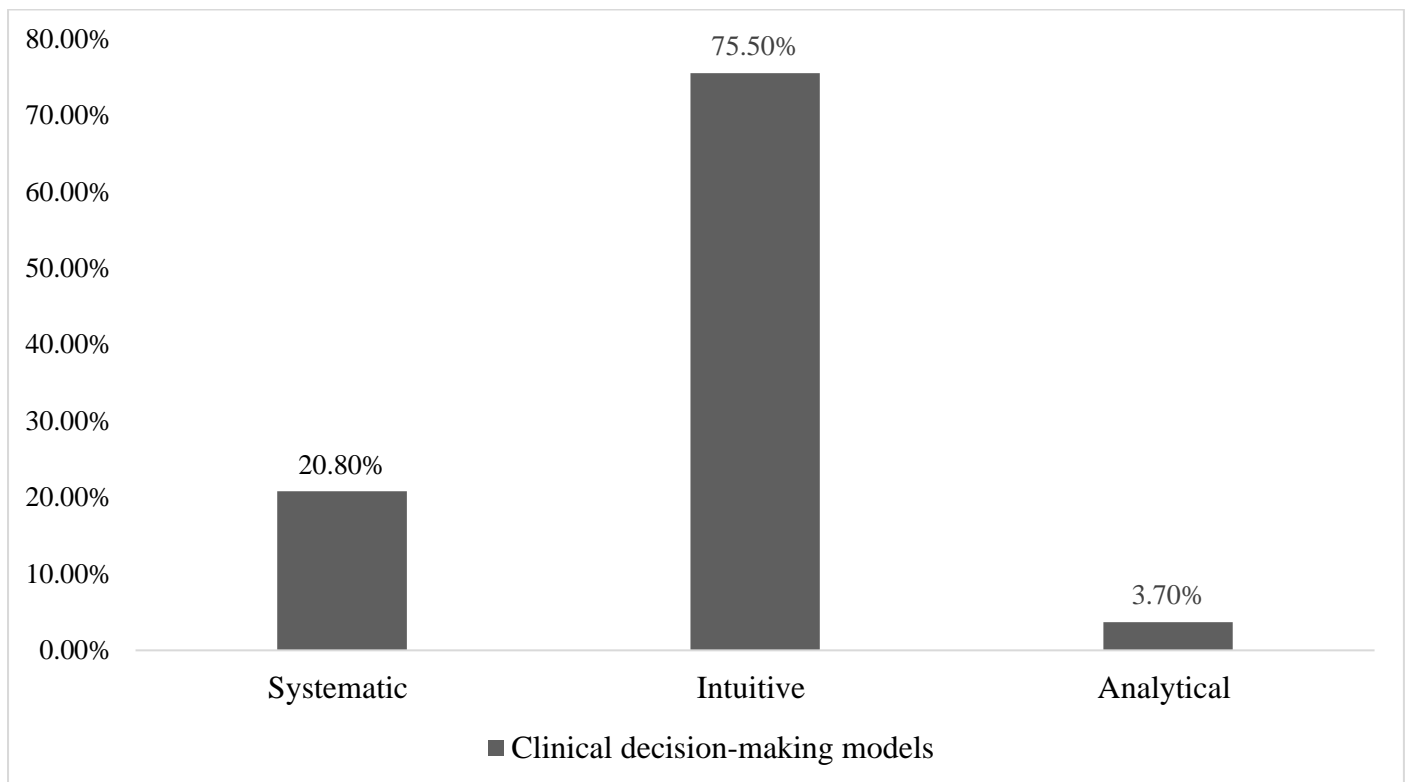


Figure 1. Nurses' clinical decision-making models in the care of older adults.

4 | Discussion

The results of this study showed that the level of clinical decision-making in nurses was higher than the average. Most of the decision-making models were intuitive. In a study by Masoudi & Alavi (2021), the level of clinical decision-making was also found to be high [23]. Many studies conducted in Iran report the moderate level of clinical decision-making in nurses [16, 24, 25].

Karimi *et al.*, (2013) also showed the moderate level of clinical decision-making model [22]. Ghodsiastan *et al.*, (2021) showed that the most decision-making models used by nurses were intuitive and analytical [12]. Masoudi & Alavi (2021) revealed that the most used decision-making model by nurses was intuitive [23]. Moradi & Sharifi (2022) showed that the most used clinical decision-making by nurses include intuitive and analytical models [16]. Evidence-based decisions lead to correct and logical decisions in providing nursing services [26].

In decision-making models, analytical decision-making is done by several steps, which include collecting data, forming a hypothesis about what might happen, and continuing the process of collecting and analyzing data until a correct decision is made. Meanwhile, intuitive decision-making is defined as knowing what to do based on experience without any particular reason [27]. Analytical and intuitive decisions are made based on the

collection of information from real events [16]. Therefore, the combination of intuitive and analytical decision-makings is more effective than other decision-making models [22, 28]. Meanwhile, self-efficacy is one of the internal factors that affect correct clinical decision-making [13]. Clinical decision-making, as an essential part of professional nursing practice, affects the quality of care more than any other factor [29]. Correct clinical decision-making can improve the quality of care and reduce the duration of hospital stay, complication, and treatment costs [16].

The results of this study did not show a significant relationship between clinical decision-making and the demographic variables of age, work experience, marital status, gender, and average working hours per month. Moradi & Sharifi (2022) also showed a significant relationship between age, work experience and clinical decision-making. They also concluded that an increase in the age and work experience also increases the nurses' ability and skill to analyze and solve problems [16].

Etemadifar *et al.*, (2020) also found no significant difference between the decision-making model and demographic characteristics [29]. Shahraki Moghaddam *et al.*, (2017) showed a significant relationship between the clinical decision-making model and the variables of age and work experience, but they showed no significant relationship between gender, marital status and

clinical decision-making model [24]. This significant relationship between work experience and effective clinical decision-making can be related to nurses' self-efficacy and self-confidence [30], as these factors play an effective role in the decision-making process [24]. In general, it can be said that clinical decision-making is the most important decision-making process that requires knowledge and cognitive skills [13]. Clinical decision-making is an evidence-based skill in which judgment is based on critical thinking and problem-solving skills. This type of decision-making increases the quality of nursing care [15]. In clinical decision-making, evidence-based care is a problem-solving approach in providing health care that has the best results for patients and their families [27].

Correct decision-making can reduce the length of hospital stay and facilitate recovery. Correct decision-making can also reduce treatment costs, environmental stress and contamination with hospital infections [31]. It seems that the nurses' correct decisions help the health system in allocating resources, improving health care, contributing to profitability and preventing the loss. The evidence obtained from health systems around the world indicates that the decisions made by nurses can be improved [32]. For this reason, it is necessary for health system managers to provide the necessary conditions and make suitable ground for the use of correct decision-making models by nurses [25].

4.1 | Limitations

One of the limitations of this study was the lack of research variables on this issue. Therefore, it is suggested to investigate the relationship between clinical decision making model and other care-related variables in future studies.

5 | Conclusions

The results of this study showed the high level of clinical decision-making among nurses. According to the findings of this study, it can be concluded that the nurses in this study mostly used the intuitive and analytical decision-making models. Also, teaching decision-making based on critical thinking plays an important role in improving clinical decision-making skills. Therefore, it is necessary to train the managers and officials of health care system to promote effective clinical decisions with proper management and planning in order to increase the quality of nursing care provided to patients.

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Authors' contributions

Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work: NL, GR, GRMS, MT; Drafting the work or revising it critically for important intellectual content: NL, GR, GRMS, MT; Final approval of the version to be published: NL, GR, GRMS, MT; Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved: NL, GR, GRMS, MT.

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Ethics approval and consent to participate

The ethics committee of Golestan University of Medical Sciences has given its approval to this study (IR.GOUMS.REC.1400.402). The participants gave informed consent after being informed of the current study's goals. It was made clear to participants that they could leave the study at any time.

Competing interests

We do not have potential conflicts of interest with respect to the research, authorship, and publication of this article.

Availability of data and materials

The datasets used during the current study are available from the corresponding author on request.

Using artificial intelligent chatbots

None.

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