SAGE Open Nursing
Volume 10: 1–7

DOI: 10.1177/23779608241242249
journals.sagepub.com/home/son

Palestinian Nursing Students' Perspective of Clinical Decision-Making

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Abstract

Introduction: One of the most important aspects of nursing education and practice is clinical decision-making (CDM), which is also crucial to clinical competency.

Objective: The study aimed to assess the CDM of undergraduate nursing students by using the CDM nursing scale.

Method: The study was cross-sectional and involved 315 nursing student participants. Data collection utilized the Clinical Decision-Making Scale, which comprises domains such as "canvassing of objectives and values," "search for alternatives or options," "evaluation and reevaluation of consequences," and "search for information and unbiased assimilation of new information." Statistical analyses included Pearson correlation, ANOVA, and independent *t*-tests. Data collection occurred during the second semester of 2023.

Results: The results indicated that the mean age of the students was 21.69 ($SD = 1.6$) years. In terms of gender, the majority were males, constituting 216 (68.6%) of the participants. Among the participants, 105 (33.3%) were from the second year, 108 (34.3%) from the third year, and 102 (32.4%) from the fourth year. The analysis revealed that the average CDM score was 129.8 ($SD = 17.5$). Additionally, examination of the subscales of CDM showed that the highest subscale score was for "search for information and unbiased assimilation of new information" ($M = 33.1$, $SD = 5.3$), while the lowest subscale score was for "search for alternatives or options" ($M = 31.8$, $SD = 6.0$). Furthermore, the analysis demonstrated a significant difference between academic year level and the mean CDM scores ($p < .05$), along with a positive relationship between the CDM score and students' age ($r = .67$, $p = .001$).

Conclusion: The findings revealed that nursing students exhibit a moderate level of CDM. Moreover, it was revealed that students' CDM is influenced by both their age and academic year level.

Keywords

nursing student, decision-making, clinical, education

Received 6 December 2023; Revised 1 March 2024; accepted 10 March 2024

Introduction

Nursing education faces challenges as clinical environments become increasingly sophisticated and patient acuity rises (Dang et al., 2021). Consequently, nurses must rely heavily on clinical decision-making (CDM) guided by the latest evidence-based guidelines and research to uphold patient safety and deliver high-quality care (Al-Dossary et al., 2016; Voldbjerg et al., 2017).

Making decisions involves determining the most effective approach to resolving an issue. Sucu et al. (2012) define decision-making as a cognitive process initiated when an individual perceives a situation as problematic, leading to the selection of an action from various options to achieve a desired outcome. CDM is described as "a continuous, iterative process involving gathering data from multiple sources, including patient history and physical examination; interpreting data with ongoing collection as needed; evaluating data by discerning relevant from irrelevant information; and formulating a decision" (Tiffen et al., 2014).

Clinical competence, clinical nursing training, and CDM are all crucial components of nursing education and practice (Johansen & O'Brien, 2016; Nursing and Midwifery Council, 2018). The capacity to apply both basic and advanced nursing knowledge, including nonlinear and multidimensional interactions, is referred to as CDM (Thompson,

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1999). In order to select the best course of action to enhance clients' health and lower risks, this approach defines CDM as a complex process that involves clinical assessment, information processing, evidence analysis, critical thinking, pertinent knowledge, problem-solving, and reflection (Standing, 2023).

Tanner (2006) emphasizes that all healthcare practitioners, especially nurses, must excel in the essential skill of CDM. Nursing professionals are required to gather updated data through various means to make clinical decisions, demonstrating their ability to utilize and integrate both theoretical and practical knowledge (Dickison et al., 2019). Nursing students, according to Ayed et al. (2023), need to continually improve their clinical judgment and decision-making skills throughout their education to prepare themselves for delivering high-quality care upon graduation.

The inability to make appropriate clinical decisions may lead to nurses missing opportunities to enhance clients' health (Abu Arra et al., 2023; Potter et al., 2021). Inadequate CDM methods are responsible for over half of all clinical errors (Tomlinson, 2015). Improved decision-making by nurses could help prevent unexpected hospital accidents (Muntean, 2012).

Literature Review

Nursing students must develop and reinforce their CDM skills as future professional nurses. According to a survey conducted among fourth-year nursing students, 76% of them belonged to the cognitive model's quasi-rational group, 23% to the analytical group, and 1% to the intuitive group (Phillips, 2015). Nursing senior students perceive CDM to be a complicated conceptual method that is dependent on knowledge and experience (Johnsen et al., 2016; Laumen et al., 2017).

Changes in critical thinking and cognitive development during undergraduate nursing education have been discussed in the literature, suggesting that these changes require time and should be integrated into CDM processes (Harazneh et al., 2015; Huber & Kuncel, 2016; Maharmeh et al., 2016; Novalia et al., 2022). Moreover, research indicates that simulation experiences enhance analytical decision-making processes (Abdulmohdi & McVicar, 2023; Ayed et al., 2023). Guerrero (2019) asserts that self-analysis, the learning environment, and clinical instructors all influence student decision-making.

Despite Jahanpour et al.'s claim (2010) that CDM abilities can be learned, the nursing literature indicates that both new graduate nurses and nursing students often lack these skills (Brown & Crookes, 2016). Additionally, Arkan et al. (2022) found that nursing students' CDM is moderate. To address this challenge, nursing educators must integrate CDM abilities into the nursing curriculum, ensuring that students at all educational levels have opportunities to practice these skills in clinical settings. Arab American University implemented high-fidelity simulation as a teaching method in 2015 and integrated it into the nursing curriculum, with research indicating that it enhances clinical judgment and decision-making among nursing students (Ayed et al., 2022). The findings of this study can aid educators in developing appropriate teaching and clinical methods to enhance nursing students' CDM abilities.

The task for nurse educators is to equip aspiring nurses with advanced CDM and delegation abilities. The first step in this process is understanding how students acquire crucial decision-making skills. Research on nursing students' perceptions and understandings of the decision-making process will facilitate the creation and implementation of teaching methods aimed at improving CDM abilities in the complex healthcare setting. Therefore, the current study aimed to assess the CDM of undergraduate nursing students using the Clinical Decision-Making Scale (CDMNS).

Research Question

What are the levels of CDM perceptions of nursing students?

Method

Study Design and Setting

This was a cross-sectional study. Data were collected from Arab American University. The data were collected in the second academic semester between February and May 2023.

Sample and Sampling Procedure

The Faculty of nursing consisted of 1,500 students in the bachelor program, second, third and fourth-grade students in the second semester of the 2023 academic year. The grade is composed of two semesters. First-grade students take general university requirements. The requirement of the nursing curriculum started in the second year, so the sample of students in this study involved second, third, and fourth-grade students. The sample size was computed using the Raosoft applications with a 95% confidence level, a margin of error of 5%, a population of 1,500 nursing students, and a response rate of 50%. This study required a total of 306 participants. To compensate for missing surveys and dropouts, an additional 30 individuals were included. So the ultimate sample size was 336 participants. The study was accomplished with a convenience sample of 315 nursing students.

Inclusion Criteria

Nursing students who are registered in the second, third, and fourth year of the nursing bachelor program at Arab American University. No work experience in the hospital.

Exclusion Criteria

Nursing students who are registered in the first year of the nursing bachelor program because they take general university requirements.

Data Collection Tool

A questionnaire consisted of the following parts:

- Part I: Sociodemographic characteristics of participants include age, gender, and academic year level.
- Part II: The nursing CDMNS is a self-reported scale developed by Jenkins (Jenkins, 1983). The CDMNS consists of 40 items and four domains. These domains include "the canvassing of objectives and values," "search for alternatives or options," "the evaluation and reevaluation of consequences," and "the search for information and the unbiased assimilation of new information." Every domain is 10 items, in which each item is rated on a 5-point Likert scale; *never* (1), *seldom* (2), *occasionally* (3), *frequently* (4), *always* (5). The score evaluation can be done on the basis of the total mean score and the mean score of the subscales. The scale's high score reflected an elevated decision-making. The Cronbach's alpha was 0.83 in the original study of the scale (Jenkins, 1983). The Cronbach's alpha value of the total scale was found to be 0.78 in the reliability and validity study (Ayed et al., 2023; Edeer & SARIKAYA, 2015). In the current study, Cronbach's alpha was (.92). Also, the scale was classified as poor CDM (less than 50%), fair CDM (50% to 75%), and good CDM (more than 75%; Thabet et al., 2020).

Data Collection Procedure

Once the clinical practice was finished at the end of the spring semester, the data was collected. The participants were briefed by the researchers about the purpose of the study. It was made clear to the students that they might withdraw from the study at any point. A document requesting informed consent had to be signed by students who agreed to take part in the study. The questionnaires were administered by the researcher face to face and the students completed the paper-based questionnaire in English language.

Ethical Consideration

Ethical approval was obtained from the Arab American University. A written informed consent was obtained from the participants. Confidentiality was assured during the study with no personal information related to their identity. The participants were notified that they could withdraw at any time of the study without any harm and return incomplete questionnaires.

Statistical Analysis

Statistical analysis was completed using SPSS Version 23. Descriptive statistics, such as frequency, percentage, mean, and standard deviation were used to measure the sociodemographic characteristics and CDM. Pearson correlation was used to measure the relationship between age and CDM. An independent *t*-test was applied to measure the difference between CDM mean scores and gender. ANOVA and Tukey post hoc test were applied to measure the difference between CDM mean scores and academic year level.

Results

Participants' Characteristics

A total of 315 nursing students completed the questionnaire out of 336 with a response rate of 93.8%. The results showed that the mean age of students was 21.69 ($SD = 1.6$) years. With regard to gender, the majority 216 (68.6%) were males. The participants from the second year were 105 (33.3%), third year 108 (34.3%), and 102 (32.4%) in the fourth year, as seen in Table 1.

Research Question Results

Description of CDM. The analysis revealed that the average CDM score was 129.8 ($SD = 17.5$). Also, the analysis of subscales of CDM showed that the highest subscale was "search for information and unbiased assimilation of new information" ($M = 33.1$, $SD = 5.3$), while the lowest subscale was "search for alternatives or options" ($M = 31.8$, $SD = 6.0$), as seen in Table 2.

CDM and Demographic Characteristics. The analysis revealed a significant difference in mean CDM scores based on academic year level ($p < .05$). Additionally, correlation analysis showed significant positive relationships between CDM scores and students' age ($r = .67$, $p = .001$). Specifically, students in the third year exhibited statistically significantly lower perceptions of CDM compared to those in the fourth year, and higher perceptions compared to those in the

Table 1. Distribution of Demographic Characteristics Among Nursing Students ($N = 315$).

Characteristics		*M* (*SD*)	*n* (%)
Age		21.6 (1.6)	
Gender	Male		216 (68.6)
	Female		99 (31.4)
Academic year level	Second year		105 (33.3)
	Third year		108 (34.3)
	Fourth year		102 (32.4)

Note. *M* = mean, *SD* = standard deviation.

Table 2. Description of Perception of Clinical Decision Making Among Nursing Students ($N = 315$).

Clinical decision making	*M* (*SD*)
"Clinical decision-making total score"	129.8 (17.5)
"Search for alternatives or options"	31.8 (6.0)
"Canvassing of objectives and values"	31.9 (5.6)
"Evaluation and reevaluation of consequences"	33.0 (5.2)
"Search for information and unbiased assimilation of new information"	33.1 (5.3)

Table 3. Clinical Decision-Making Mean Scores and Demographic Characteristics ($N = 315$).

Variable		*N*	*M* (*SD*)	Statistical test	*p*-value
Gender	Male	216	130.8 (18.0)	$t(313) = 1.49$	.137
	Female	99	127.6 (16.1)		
Academic year level	Second year	105	116.0 (6.3)	$F(2,312) = 251.7$	.001
	Third year	108	125.1 (6.3)		
	Fourth year	102	148.8 (16.8)		
Age				$r = 0.674$	.001

* Significant at the .05 level.

second year ($p < .05$). However, there was no significant difference in mean CDM scores based on gender ($p > .05$), as seen in Table 3.

Discussion

The ability of nurses to utilize and combine their theoretical and practical knowledge is demonstrated through CDM, which requires nurses to access up-to-date information from various sources. It is essential for nurses to gather the most accurate information related to problem-solving and incorporate it into their decision-making process to ensure the best possible outcomes (Özen et al., 2017). Moreover, one of the most critical skills that nursing students must acquire and employ in their profession is the ability to make decisions, ensure patient safety, and deliver optimal care (Arkan et al., 2022).

Due to the dynamic nature of the healthcare system and the complexity of care needs, newly graduated nurses must proficiently collect valid data, access resources, prioritize information, solve problems, and ultimately make appropriate clinical decisions (Van Graan et al., 2016). Additionally, Ludin (2018) asserts that CDM is closely linked to critical thinking. Critical thinking skills are imperative in both nursing education (Von Colln-Appling & Giuliano, 2017) and nursing practice (Robb, 2016). The present study aimed to assess the CDM perceptions of undergraduate nursing students by using the CDMNS.

The study's findings indicated that the average clinical decision score, as well as the average clinical decision subscale scores, fell within the moderate range. It emphasizes the importance for nursing students to maintain a capacity for swift and precise CDM amid evolving settings, drawing from diverse data sources (Johansen & O'Brien, 2016; Ozden et al., 2018). These findings align with those of Abd El-Aziz and Sorour (2013), who similarly observed intermediate decision-making abilities among nursing students in their study. Furthermore, according to Abou Ramadan and El-Demerdash (2017), the majority of nursing students have a moderate degree of CDM.

This was inconsistent with Eid et al. (2016) study, which found that all new graduate nurses had low decision-making. The study was conducted on (90) novice graduate nurses in Egypt. This finding may be attributed to different scales of decision-making and the sample was small. Also, nursing students may not have had enough exposure to real-world clinical scenarios to develop advanced decision-making skills. Additionally, the stress and pressure associated with clinical practice can impact nursing students' decision-making abilities.

According to the findings of our study, the age and academic year level at which students study influence their CDM levels. According to the research, students' CDM abilities improved with clinical experience at all levels of their education (Atasoy & Sütütemiz, 2014). Chen et al. (2016) reported that clinical experience influences CDM. Furthermore, Phillips (2015) reported that students in their final academic year from two study programs in the United States, Baccalaureate (BSN) and Accelerated Baccalaureate (ABSN), and determines that CDM abilities of students in both programs are flexible, making decisions that are dependent on the situation at hand. Bjørk and Hamilton (2011) discovered that nurses with higher education levels made more effective clinical judgments when they investigated nurses' perceptions of CDM. Nursing students may find it simpler to set goals as they get more experience. Johnson (2011) supports this perspective by stating that students who sense trust between teachers and students are more likely to consider aims and values when making judgments. The current study's findings, however, were not supported by the findings of Özden et al. (2018) who revealed that grade/year had no effect on the students' CDM skills. In their studies, Arkan et al. (2022), Aktaş and Karabulut (2016), and Özen et al. (2017) reported that the academic year did not affect the CDM of the students ($p > .05$). This may be attributed to individual differences among students, such as motivation, self-efficacy, and prior healthcare experiences, which can also play a significant role. Some students may naturally excel in CDM, while others may require additional support and guidance to develop these skills. Also, as students progress through their academic years, they gain more exposure

to clinical settings and patient care experiences. This hands-on experience allows them to encounter a wider variety of clinical scenarios, develop critical thinking skills, and learn from practical applications, ultimately improving their ability to make effective clinical decisions.

Strengths and Limitations

The strength of being the first study on CDM among nursing students in Palestine lies in its potential to generate valuable insights, fill a research gap, and contribute to both local and global understanding in the field of nursing education. However, the results of this study could have been impacted by some limitations. Because self-reported questionnaires were used in this study, reporting bias may have resulted from respondents' personal views of the questions. In addition, another methodological limitation of this study is that it is cross-sectional and got information about CDM at a single point in time, whereas CDM levels may vary over time. Finally, the generalizability of the results to the sample in this study is limited by the convenience of sampling and the data collection from a single university.

Recommendations and Implications for Practice

It's important for nursing programs to address these limitations through a well-rounded curriculum, supportive supervision, and opportunities for diverse clinical experiences. The study recommended repeating the study on a large sample from different nursing programs in Palestine. Also, the integration of simulation in the nursing curriculum will contribute to the CDM processes of the students in the second, third and fourth-grade students.

Conclusion

The findings demonstrated that nursing students have moderate levels of CDM. It was also shown that students' CDM is influenced by their age and academic year level. The study suggested that students' CDM levels be investigated in terms of other characteristics such as critical thinking, problem-solving, and the clinical learning environment, as well as their individual differences and communication abilities.

Acknowledgments

The authors would like to express their thanks to the nursing students who participated in the study.

Declaration of Conflicting Interests

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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