Factors Influencing in Clinical Decision Making of Nurse: A Systematic Review

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Abstract

Clinical decision making is important for nurses to do. Clinical decision making is a complex process consisting of careful assessment of pathological conditions and patient history and the use of nursing knowledge and learning based on critical thinking experiences. Improper clinical decision making will have fatal consequences for patients This review system was compiled using Proquest. Science Direct and Pubmed databases. Article selection is carried out to identify relevant articles then screening is conducted to adjust the inclusion criteria. 13 articles were obtained in accordance with inclusion criteria and reviewed by using JBI (Joanna Briggs Institute Levels). Data shows that nurses have a very important role in clinical decision making. Nurses' clinical decision making is considered due to the risks faced by patients, thus the nurses should think critically. Clinical decision making for nurses is influenced by several factors including experience, knowledge, environment, team, supervisor support, and professionalism.

Keywords: *Clinical Decision Making*, *Nurse, Factors Influencing.*

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A.   INTRODUCTION

Clinical decision making is important for nurses to do (Thompson et al., 2008). That is because nurses are professionals who have to make clinical decisions on patients (Dunger, Schnell, & Bausewein, 2017). Nurses' clinical decision making when conducting nursing care will affect effectiveness in clinical practice and affect the safety of patient (Bjørk & Hamilton, 2011) and should be done precisely and quickly (Johansen & O'Brien, 2016). Effective clinical decision making depends on the ability to collect, understand and integrate data with a focus on the needs of patients by identifying the clinical situation (Johansen & O'Brien, 2016).

In 1997 it was reported that at least 98,000 Americans died each year due to errors in clinical decision making by health workers (Kohn, Corrigan, & Donaldson, 2000). In an international study, 17.7% of patients experience disabilities and deaths due to inappropriate decision making (Bucknall, 2010). Clinical decision making is a complex process consisting of careful assessment of pathological conditions and patient history and the use of nursing knowledge and experiential learning for critical thinking (Benner, Tanner, & Chesla, 2009). Nurse clinical decision making is a series of processes performed by nurses to patients including observing the patient's condition, evaluating data obtained from patient examinations and taking appropriate actions to achieve the desired results (Lauri & Salanterä, 2002).

Observation of the patient's condition is the initial process of collecting information, identifying problems and obtaining information about the patient's condition (Prescott, Dennis, & Jacox, 1987). Data evaluation in the clinical decision making process is a problem solving process that focuses on analyzing the situation to take solutions and decide on existing problems (Simamora, 2018). Taking action on the patient is done after the nurse observes the patient's condition and evaluates the data obtained to choose management that is appropriate to the patient's condition and priority problems (Payne, 2015).

The nurse in decision making refers to the ability to make decisions based on experience and information about treatment. Includes the ability to understand medical problems (Carroll, 2010). The nurse's clinical experience has the most influence on the whole decision making process (Bakalis, 2006). Because improper decision making will endanger the lives of patients, thus nurses should be able to think critically (Hosseini, Maleki, Gorji, Khorasani-Zavareh, & Roudbari, 2018). Based on the presentation of the data above, the writer interested in writing a systematic review with the theme of "Factors influencing in clinical decision making of nurses".

B. METHOD

This study is a systematic review based on a database of factors influencing in clinical decision making of nurses. This systematic review was prepared using a search strategy by utilizing Proquest, Science Direct and Pubmed databases using Keywords of: Clinical Decision Making of Nursing and Factors Influencing Clinical Decision Making. Before conducting a search on the data base, the author made several settings in the database page by specifying the research year from 2009-2019, English language articles, can be accessed full text and document type is a research article. A total of 564 articles from Proquest, 219 articles from Science Direct and 216 articles from Pubmed. Articles that are relevant to the theme are identified, then screened by reading the title and research abstract by specifying related to factors that influence nurses' decision making and obtained 45 articles and downloaded to be read the full text, then each article is determined whether the article is included. inclusion criteria or exclusion criteria. The number of articles included in the inclusion criteria was 13 articles included in this systematic review. Inclusion criteria that have been established by the authors include:

1. Journal articles published from 2009-2019.
2. Nurses' clinical decision making.

The process of selecting and determining documents was conducted with the PRISMA flowchart. PRISMA flowchart could be seen in Figure 1. Besides this process also uses the JBI level (Joanna Briggs Institute Levels) in 10 articles that had been determined. Based on the appraisal conducted, a summary of the research results shown in Table 1.
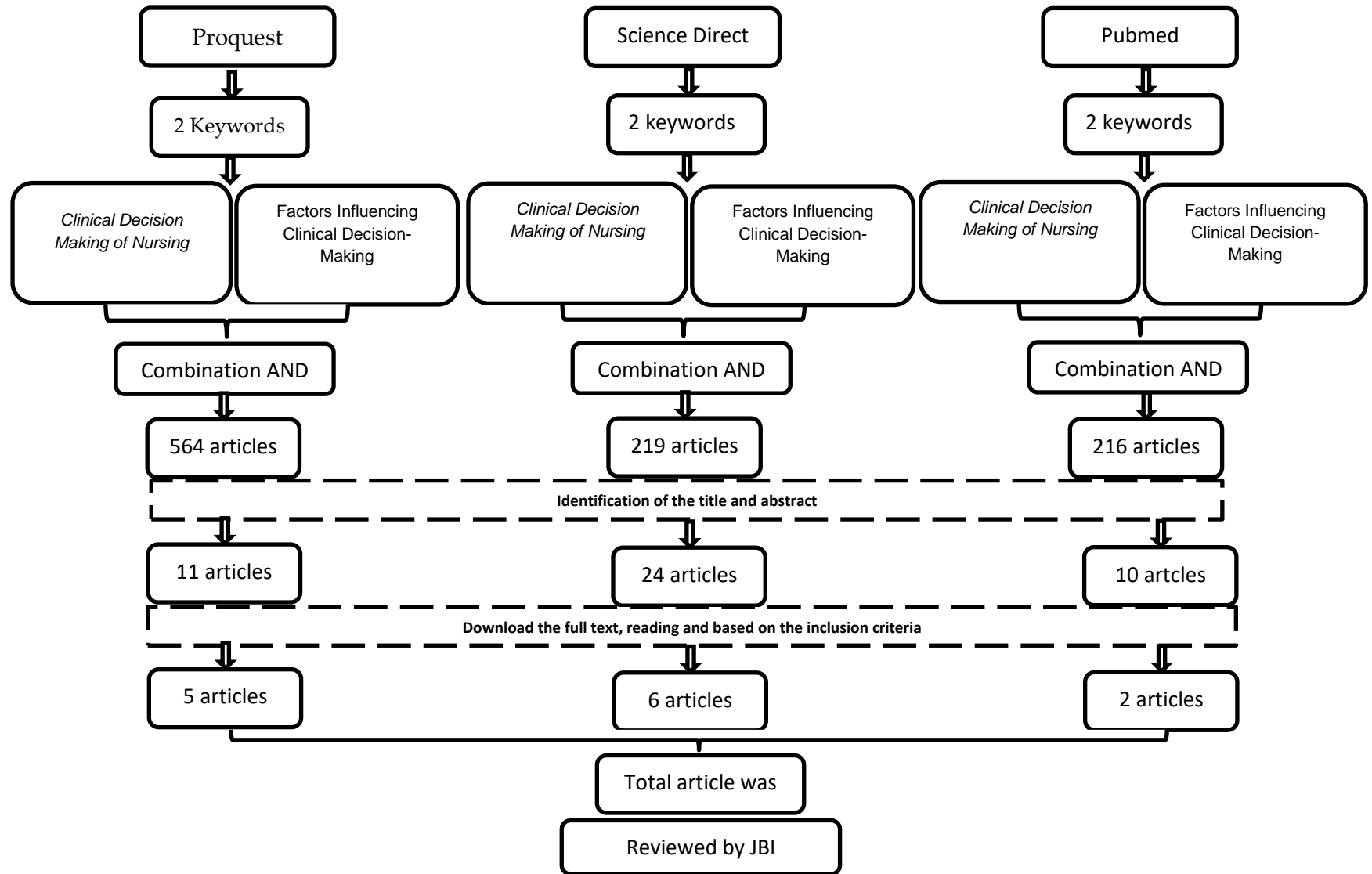
Figure 1. PRISMA Flowchart

Table 1. Summary of the Research Results

No	Author (year)	Objectives	Methods	Sample	Major Findings
1	(Chen, Hsu, Chang, & Lin, 2016)	Researchers want to know the factors that influence the ability in clinical nurse decision making	Cross-sectional descriptive survey	197 nurses	Clinical decision making for nurses uses analytic models rather than intuitive models, in this case, the ability of nurses and knowledge of nurses affects nurses' clinical decision making.
2	(Gazarian, Henneman, & Chandler, 2010)	Researchers describe the factors that influence the nurse's decision making process when a heart attack occurs	Qualitative descriptive	13 nurses	Nurses can identify the risk of heart attack in patients with this change in awareness supported by nurses' previous experience, collaborative ability tools and knowledge. According to the 13 nurses, 4 nurses considered that in the event of seizures, vasovagal responses, and an airway that was threatened, the nurse made a clinical decision to immediately contact the rapid response systems. Whereas 9 other nurses contradict the chosen option
3	(Dolan, 2017)	Describing decision making in controversial situations involving moral, ethical and legal matters.	Qualitative	4 nurses	In a controversial situation influences decision making because it is against the law, ethics and morals.

4	(Pitel & Mentel, 2017)	Knowing the effectiveness of the Melbourne Decision Making Questionnaire (MDMQ) to determine the relationship of maladaptive decision making patterns (in situations under high pressure) with the quality of decision making	Quantitative	109 nurses	The findings raise doubts about the predictive validity of MDMQ in knowing the relationship of maladaptive decision making patterns (in situations under high pressure) with the quality of decision making
5	(Hosseini et al., 2018)	Knowing the factors in making the right and fast decision in dispatchers.	Qualitative	16 dispatchers	The study found responsive factors as a major component in improving the decision making process in EMD. Dispatcher response consists of two categories, the first is personality values and professionalism.
6	(Esmaelzadeh, Abbaszadeh, Borhani, & Peyrovi, 2017)	Exploring the experience of nurses in ethical nurse decision making	Quantitative	20 participants	Nurse leaders influence nurses' ethical decision making and can improve ethical-based nursing services
7	(Choi & Kim, 2015)	Identifying patterns of clinical decision making among nurses	Quantitative	183 nurses	The results showed that nurses' clinical decision making patterns were influenced by nursing professionalism and self-efficacy.
8	(Mizerek & Wolf, 2015)	Exploring individual and environmental factors that influence clinical decision making by nurses in catheter placement in the ED	Qualitative Explorative	23 nurses	In this study, the decision to place a catheter was carried out by a nurse in collaboration with other health workers. The nurse described the lack of a clear protocol for catheter placement or removal in the emergency room

9	(Brummell, Seymour, & Higginbottom, 2016)	Exploring the experience of emergency staff in making decisions to start, continue or stop resuscitation	Qualitative ethnography	13 nurses, 12 medical and 2 paramedics	Emergency staff decisions regarding resuscitation use a heuristic decision-making approach that is fast and economical
10	(Fry & MacGregor, 2014)	Exploring nurses' confidence in making clinical decisions	Qualitative	52 participants	Self-confidence is a factor that supports the nurse's ability to solve problems and think critically to determine the best way to make decisions
11	(Wu, Yang, Liu, & Ye, 2016)	Investigating the factors that influence clinical decision making	Quantitative with cross-sectional research design	216 nurses	In this study it was found that the best nurses are nurses who have the ability to self-manage, in this case the level of education, experience and structural strength has a positive effect in making clinical nurses' decision making
12	(Wilson, Talsma, & Martyn, 2011)	Describing the behavior of effective decision making from the perspective of the nurse financial manager, nurse manager and nurse staff	Qualitative	24 nurses	In this study found 5 themes that emerged in decision-making behavior, namely reason, communication, flexible, assertive and future awareness. In this case the nurse of the financial manager is described by an attentive nurse.

| 13 | (Bach, Ploeg, & Black, 2009) | Explaining the role of critical nurses in decision making at the end of life (end of life) | Qualitative: Grounded theory | 14 nurses,10 ICUs and 4 CRCUs in Southwest Ontario Hospital, Canada | 1. The results revealed the important role of nurses in supporting the journey towards the end of life in critical care settings. 2. This research revealed that one of the most basic nurse roles is present at the bedside, providing comfort, a touch of attention, and listening. 3. This research confirms the important role of nurses at the end of life explaining and interpreting 4. This research confirms the tension experienced by nurses between caring for patients and families. |

C.   RESULT AND DISCUSSION

Nurses have a very important role in clinical decision making and have a variety of different references in decision making patterns. Because nurses who make clinical decisions will affect the patient's situation and when making clinical nurse decisions based on several factors such as knowledge, experience, professionalism and collaborative. Based on a cross sectional descriptive survey to determine the extent to which nurses' abilities in decision making by involving nurse practitioners as many as 179 obtained clinical decision making results on nurses using analytical models rather than intuitive models in this case the ability of nurses' knowledge affects nurses' clinical decision making (Chen et al., 2016). Other studies that illustrate the factors that influence the decision making process used by nurses in identifying emergencies such as heart attacks involving 13 nurses have found results: nurses can identify the risk of heart attacks in patients with changes in consciousness this is supported by the experience of previous nurses, equipment collaborative ability and knowledge. Of the 13 nurses, 4 nurses considered that in the event of seizures, vasovagal responses, and an airway that was threatened, the nurse made a clinical decision to immediately contact the rapid response systems. While 9 other nurses contradicted the option considered (Gazarian et al., 2010).

Research on decision making in controversial situations involving moral, ethical and legal matters involving 4 nurses and 16 controversial situations results in controversial situations resulting in conflicting moral, ethical and legal pressures that influence decision making (Dolan, 2017). Research to determine the relationship between maladaptive decision making / under pressure with the quality of decision making using the Melbourne Decision Making Questionnaire (MDMQ) and Subjective Performance Evaluation of Decision-Making Quality (SPEDM). By involving 16 dispatchers in 7 Emergency Medical Dispatchers (EMD), it was found that a good response as a major component in improving the decision making process in EMD, the response dispatcher consisted of two categories, the first being personality values and professionalism (Hosseini et al., 2018). In another study to explore the experience of nurse leaders in strengthening ethical decisions to nurses by involving 20 participants and the results obtained that leaders can strengthen ethical nursing decision making (Esmaelzadeh et al., 2017). The research aims to identify patterns of decision making among nurses by involving 183 nurses and the results show that nurses' clinical decision making patterns are influenced by nursing professionalism and self-efficacy (Choi & Kim, 2015).

The research to find out about individual and environmental factors that can influence clinical decision making regarding the placement and maintenance of urinary catheters by emergency nurses involving 23 nurses and the results show that decision making is under the collaborative nursing field (Mizerek & Wolf, 2015). The research to

explore how emergency staff make decisions to start, continue or stop resuscitation by involving as many as 13 nurses, as many as 12 medical doctors and as many as 2. paramedics The results of emergency staff decisions regarding resuscitation actions using heuristic decision decisions are fast and low-cost (Brummell et al., 2016). Another research to explore the confidence of emergency nurses in nursing practice and decision making involving 52 participants found that self-confidence is a factor that supports nurses' ability to solve problems and think critically to determine the best way to make decisions (Fry & MacGregor, 2014). The research of (Wu et al., 2016) which aims to investigate the factors that influence clinical decision making using quantitative methods with cross-sectional research design involving 216 nurses found that the best nurses are nurses who have the ability to self-manage, in this case the level of education, experience and structural strength have a positive effect on make clinical nurse decision making.

The research of (Wilson et al., 2011) which aims to describe effective decision-making behavior from the perspective of nurses financial managers, nurse managers and nursing staff involving 24 nurses found 5 themes that emerge in decision-making behavior namely reason, communication, flexible, decisive and future awareness. In this case the nurse of the financial manager is described by an attentive nurse. While the research of (Bach et al., 2009) involving 14 ICU nurses and 4 CRCU nurses in southwest Ontario, Canada, the first results were obtained, nurses had an important role in supporting the journey towards the end of life in critical care settings. The second revealed that one of the most basic nurse roles is present at the bedside, providing comfort, a touch of attention, and listening. Third confirms the important role of nurses at the end of life explaining and interpreting and fourth emphasizes the tension experienced by nurses between caring for patients and families.

D. CONCLUSION

The provision of nursing care is conducted by nurses to patients. Clinical decision making should be done with critical and professional thinking, thus the clinical action for patient could be done without causing fatally things. Nurse clinical decision making is influenced by several factors including: experience, knowledge, environment, team, supervisor support, and professionalism.

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