

Factors Influencing Nursing Students' Clinical Judgment: A Qualitative Directed Content Analysis in an Iranian Context

MOLUK POURALIZADEH¹, HAMIDREZA KHANKEH², ABBAS EBADI³, ASGHAR DALVANDI⁴

ABSTRACT

Introduction: Clinical judgment is necessary for clinical decision making and enhancing it in nursing students improves health care quality. Since clinical judgment is an interactive phenomenon and dependent on context and culture, it can be affected by many different factors.

Aim: To understand the experiences of Iranian nursing students and teachers about the factors influencing nursing students' clinical judgment.

Materials and Methods: A qualitative study was conducted using a directed content analysis approach. In this study, purposive sampling and semi-structured interviews were applied with seven nursing students, six faculty member

teachers and four clinical instructors from Guilan University of Medical Sciences, Gilan, Iran.

Results: The factors influencing nursing students' clinical judgment consisted of five main categories including thoughtful behaviour, professional ethics, use of evidence based care, the context of learning environment and individual and professional features of clinical teachers.

Conclusion: Relying on the results of this research, teachers can create an appropriate educational condition and a safe psychological atmosphere, use instructional strategies strengthening deep thought processes, applying professional ethics and scientific evidence and principles to establish clinical judgment in nursing students.

Keywords: Critical thinking, Nursing education, Qualitative study

INTRODUCTION

Nursing is a practice based discipline and one of the basic objectives of nursing education is to achieve clinical judgment [1]. Clinical judgment is essential for decision making [2] and is considered an inseparable part of a high quality nursing care [3]. Therefore, nursing students are expected to have relative skills and clinical judgment capability at the time of graduation [4].

Today, shortage of qualified nurses inevitably leads to early and independent confrontation of new graduates with judgment and decision making challenges in health care which can increase the probability of harm to patients [5]. Clinical judgment and decision making skills in solving clinical problems is the most important factor in preventing such injuries [6]. This has encouraged the nursing education systems to plan and prepare students studying in this major and facilitates the development of their clinical judgment [7]. However, according to research, a large number of nursing students do not have as much clinical judgment as expected when graduating [8].

It has been increasingly recognized that clinical learning environment plays an important role in the success of clinical training programs and development of thoughtful and practical skills such as clinical judgment. Identifying the basic factors that underlie the clinical judgment by nursing educators will help to create a favorable environment for development of this important clinical phenomenon [9]. Since clinical judgment is an interactive phenomenon and dependent on context and culture, it can be affected by many different factors. According to Tanner's clinical judgment model, cultural and social factors and clinical environment affect nurses' clinical judgment [10].

Very few studies have been conducted in Iran on nurses' clinical judgment and explained the structure and process of this phenomenon using clinical nurses' experience [2,11,12]. Despite the importance of establishing clinical judgment in nursing students, no study has been carried out in Iran to examine the factors

influencing clinical judgment in the context of nursing education. The present study was conducted with the aim of understanding the experiences of Iranian nursing students and teachers about the factors influencing nursing students' clinical judgment.

MATERIALS AND METHODS

This was a qualitative study directed through content analysis approach. There is a primary theory in this method regarding the phenomenon studied which helps to validate or extend conceptually a theoretical framework or theory [13]. The study of Grounded theory of Seidi J et al., in Iran was applied here. This study explored structure of clinical judgment of Iranian nurses in five categories. We applied two categories as underlying structure for coding including: "context of clinical judgment" (with three sub categories of current context and condition, organizational culture, and social context) and "skills of nurse in clinical judgment" (with eight subcategories of assessment, critical thinking, clinical reasoning, intuition, professional ethics, application of knowledge, applying experiences and using evidence [2].

Study Setting and Sample

This study was performed in the School of Nursing and Midwifery and Educational Hospitals of Guilan University of Medical Sciences (a university in a northern province of Iran). We interviewed 17 participants (7 were students, 6 were teachers and 4 were clinical instructors) face to face in a private room of the school and the hospital where they served. In this study, purposive sampling method was used complying with maximum variation.

Data Collection and Analysis

Data collection was performed through purposeful sampling and semi-structured interviews from January 2015 to March 2015, until data saturation [14]. Interviews lasted 30-67 minutes (51 minutes on average). A guide for open question interview was used in accordance with subcategories predetermined. Furthermore, the

observation of interviewer was recorded as field notes. At first, interviews started with the general open questions such as:

- Which factors and behaviours help improve your clinical judgment? (Students);
- How do you influence your students to follow a clinical situation and do clinical judgment? (teachers).

Then interviews followed by questions in accordance with subcategories and probing questions.

Establishing Rigor

In order to increase credibility, prolonged engagement methods were used and to ensure the collection and analysis of participants' actual experiences. Member check procedure was applied during data collection and analysis by asking the participants to ascertain the preliminary findings from the earlier interviews and participants confirmed the harmony of the codes with their statements. Engaging with peer researchers was used to ensure credibility of findings and to reduce research bias. For dependability and to consider coding of the text and the analysis process, some sections of the transcriptions and extracted codes were sent to two professors (qualified in the field of clinical education and qualitative researches).

Ethics

Ethical approval of this study was obtained from the Ethics Committee of University of Social Welfare and Rehabilitation Sciences in Tehran, Iran (No: IR.USWR.REC.1394.387). Written and informed consent letters on audio recordings was obtained from the participants.

STATISTICAL ANALYSIS

In order to manage data, MAXQDA (version 10) software was used. After interviews were transcribed, it was immediately analysed by the second strategy introduced in directed content analysis by Hsieh H and Shannon SE. In order to fully understand the contents, interview transcripts were read several times to produce an overall impression of the data and the most important meaning units were determined at the same time. Then coding was done and the codes put in the right place in predetermined categories [15].

RESULTS

The mean age of the students was 24 ± 2 and for the teachers was 42 ± 8 [Table/Fig-1]. We classified the factors influencing nursing students' clinical judgment under five main categories including thoughtful behaviour, professional ethics, use of evidence based care and context of learning environment and individual and professional features of clinical teachers [Table/Fig-2]. Since many codes were relevant to the characteristics of clinical teacher that did not match any of the subcategories, a new theme named "Individual and professional features of clinical teachers" was formed [Table/Fig-3].

Category 1 - Thoughtful behaviour

This category was classified into four subcategories including assessment, critical thinking, intuition and clinical reasoning.

Subcategory a. Assessment: According to many clinical teachers, assessment of patients and full awareness of their situation including the main problem, health care measures are the first steps in clinical judgment process. A teacher stated:

"A student firstly tries to assess patients. Obviously students should not start the practical care until they are fully informed of their patient's condition" (teacher-1).

Subcategory b. Critical thinking: The students believed that clinical discussion is a way to learn clinical judgment. A student said:

"I think teachers' follow up questions encourage us to investigate and will help develop our critical thinking" (student-2).

Variable	Number
Professional status	
Students	7
Teachers	6
Instructors	4
Age (years)	
23-33	9
34-44	5
45-55	3
Age mean:	
Students	24 ± 2
Teachers	42 ± 8
Gender	
Female	15
Male	2
Educational level	
PhD	2
MSc	6
B.Sc	2
Students	Semester 5 to 8
Specialty of master degree	
Pediatric	2
Med-Surg	5
ICU	1
Educational experience (in years, excluding students)	
2-7	2
8-13	4
14-19	2
20-25	2

[Table/Fig-1]: Participants' characteristics.

Main categories	Subcategories
Thoughtful behaviour	Assessment Critical thinking Intuition Clinical reasoning
Professional ethics	Ethical judgment Ethical care
Use of evidence based care	Application of knowledge Applying experiences Using evidence
Context of learning environment	Condition and context Organizational culture Social context
Individual and professional features of clinical teachers	Clinical teacher as a leader Clinical teacher as a supporter Clinical teachers' professional skills Clinical teachers' individual behaviours

[Table/Fig-2]: Main categories and subcategories of factors influencing nursing students' clinical judgment.

Subcategory c. Intuition: The teachers believed that students have a creative and emotional sense. One teacher commented:

"In CPR one of the students spoke with every single patient in the room with a special sense and tried to encourage them, then he shut the curtains around the bed so they wouldn't see that scene going on and be anxious" (teacher-2).

Subcategory d. Clinical reasoning: Students can achieve clinical reasoning if they conduct a comprehensive review. One of the instructors stated:

"My student had a comprehensive review, all the symptoms put together, he came up with the reasoning that the patient's lung capacity had been lowered" (instructor-2).

Main Categories	Subcategories	Coding samples
Clinical teacher as a leader	Empowerment of decision making Conducting interventions Introducing scientific resources	Conducting clinical discussions Using scientific guidelines
Clinical teacher as a supporter	Practical support Emotional support Organizational support	Students' satisfaction Creating secure atmosphere Access to care documents
Clinical teachers' professional skills	Educational skills Communicational skills Autonomy	Teacher interaction with Patient Practical Education of physical exams
Clinical teachers' individual behaviours	Flexibility Proficiency Alertness Respectful behaviour	Consciously monitor Students dignity

[Table/Fig-3]: A part of the process of creating the new theme of individual and professional features of clinical teacher.

Category 2. Professional Ethics

This category included two subcategories "ethical judgment" and "ethical care".

Subcategory a. Ethical judgment: Ethical judgment is an integral part of decision making and clinical judgment. A teacher commented:

"Teaching of ethical judgment plays a crucial role in the development of nursing students' professional ethics".

Subcategory b. Ethical care: The participants claimed that they usually take care of their patients on the basis of their consent. A student said:

"...when catheterizing, they ask two students to stay and the rest of us leave the room; our students have much more respect for patients" (student-7).

Category 3. Use of Evidence Based Care

This category was classified into three subcategories as follows:

Subcategory a. Application of knowledge: The participants emphasized that applying knowledge is required to reach clinical judgment. Instructors commented.

"I said to nurses that we must do everything that is scientific and principled"(instructor-3).

Subcategory b. Applying experiences: Many students expressed that exposure to clinical experiences helps them enhance their clinical judgment. A student said:

"In some cases, I ask experienced nurses do to help me with interpreting my information" (student-5).

Subcategory c. Use of evidence: Many teachers believed that students should become familiar with localized national evidence. One teacher commented:

"When we recommend a book like nursing care guidelines compiled by the Ministry of Health to students, they become so much more efficient at the care process" (teacher-3).

Category 4. Individual and Professional Features of Clinical Teachers

It was a new theme in the study. This category was classified into four subcategories as follows:

Subcategory a. Clinical teacher as a supporter: Supporting students by clinical educators made more training opportunities for the promotion of clinical judgment. A teacher stated:

"After CPR, I told the doctor that my students need to see such scenes and you shouldn't have sent them out of the room. (teacher 3).

Subcategory b. Clinical teacher as a manager: The students about the teacher's role expressed that it is complex, requiring interpersonal skills to manage students, staff nurses, and patients' needs.

"...We first have to understand the patients' needs and a good clinical instructor teaches us to manage such situations" (student 5).

Subcategory c. Clinical teachers' professional skills: The participants believed that experienced educators can provide basis of clinical judgment in nursing students. One student said:

"...Well. When our educators are newcomer and do not have enough experience and knowledge, certainly they cannot be an ideal guide for us".

Subcategory d. Clinical teachers' individual behaviours: Participants expressed that to create a psychologically safe environment to encourage students to clinical decisions by teachers was required. One of the students said:

"I always felt that my teacher had his eye on me and I was hoping that the clinical course would be finished soon" (student-2).

Category 5. Context of Learning Environment

This category was classified into three subcategories as follows:

Subcategory a. Current condition and context: From the participants' views, priority of prerequisite theory courses over practical ones was important. A teacher stated:

"if students do not study a disease in the class they won't be able to find the problem," (teacher-1).

Subcategory b. Organizational culture: According to participants' view point on organizational culture, nurses' behaviour as clinical role models was a factor influencing in judgment. A student said:

"Students suffer the discriminations between physicians and nurses and this lowers students' self confidence and decision making" (student-2).

Subcategory c. Social context: Students stated that the patients' fear of possible harm is important obstacles to gathering information and making the clinical judgment. One student stated:

"In many cases, when patients find out we are students they don't answer our questions or let us perform our duties" (student-4).

DISCUSSION

In this study, researchers classified the factors influencing nursing students' clinical judgment into five main themes including thoughtful behaviour, professional ethics, use of evidence based care, context of learning environment and individual and professional characteristics of clinical teachers.

The findings highlighted that patient assessment is a thoughtful behaviour and prerequisite for clinical judgment. It starts with systematic assessment in order to determine patients' physical, mental, emotional needs followed by continuous assessment for diagnosis of their degree of harm and examining the effect of clinical interventions on judgment. Wallace S showed that comprehensive assessment is defined as finding objective and subjective data in six physiological, psychological, sociological, developmental, spiritual and cultural dimensions [16].

Participants pointed to factors such as follow up inquiries, clinical discussion and analysis, enhancing the inquiring and problem solving spirit in students. Another study found a significant relationship between intellectual analysis skills, critical thinking and students' clinical performance [17].

Teachers believed that although intuition is shaped through experiences and mostly in skilled nurses, such way of thinking can also be seen in students at some level. Seidi J et al., also defined intuition as an immediate knowledge and experience based reaction in nurses, thus students have stronger intuition in the final years than the first years [11].

The teachers pointed to recognition of the relationship between parts and whole, understanding the reasons for changes in patient's status. Our results correspond to the study by Levett-Jones J et al.,

where clinical reasoning was defined as nurse's ability to identify key components and connections between elements for reasoning [18].

According to the findings, moral judgment competence in nursing students may significantly influence the quality of clinical judgment and deficiency of clinical standards negatively affects their performance on professional ethics. Researchers believed that deficiencies in clinical settings, such as lack of efficient organization and excessive work are important factors that reduce the quality of ethical issues and care [19].

This study showed evidence based care including application of knowledge, experience and evidence as significant fundamental factors for clinical judgment. These findings are consistent with the study by Brooke J et al., in which nursing students applied evidence based practice to enhance their knowledge, empowerment and develop accountability and professional promotion [20].

Participants believed that skilled and committed teachers can strengthen students' thoughtful behaviours by supporting and respecting them in a safe environment. In the present study, "individual and professional features of clinical teachers" was introduced as a new category. Aghamolaei J et al., argued that experienced teachers support students by creating an atmosphere with no tension, establishing good communication and respecting students. These are some of the teaching roles of an effective teacher [21].

In the present study, the environmental barriers of clinical judgment were found to be; no consecutive days of internship, environmental stresses, lack of clinical opportunities, discrimination between medical and nursing students, patients and their families' mistrust in students, disinterest of students in nursing profession. These results correspond with a study done in Iran in which students pointed to factors such as duties imposed by nurses, lack of learning opportunities and large number of students as obstacles to their decision making [22].

CONCLUSION

The results of this study showed that nursing teachers can help students develop their clinical judgment skills by providing a secure psychological environment, proper training conditions, using instructional strategies to reinforce deep thinking processes, education of professional ethics and applying scientific evidence and principles.

ACKNOWLEDGEMENTS

The authors thank all the participants who agreed to participate in this study and deputy of research and technology of University of Social Welfare and Rehabilitation Sciences for their financial support.

REFERENCES

- [1] Fenske CL, Harris MA, Aebbersold ML, Hartman LS. Perception versus reality: a comparative study of the clinical judgment skills of nurses during a simulated activity. *J Contin Educ Nurs*. 2013;44(9):399-405.
- [2] Seidi J, Alhani F, Salsali M. Exploration of structure of clinical judgment of nurses: A grounded theory study. *Journal of Qualitative Research in Health Sciences*. 2013;2(4):297-309.
- [3] Ashley J, Stamp K. Learning to think like a nurse: the development of clinical judgment in nursing students. *Journal of Nursing Education*. 2014;53(9):519-25.
- [4] Bussard M. The nature of clinical judgment development in reflective journals. *Journal of Nursing Education*. 2015;54(8):451-54.
- [5] Douglass K. The effect of the developing nurses' thinking model on clinical judgment in nursing students: nursing theses and capstone projects. Paper13. http://digitalcommons.gardner-webb.edu/nursing_etd/13. 2014.
- [6] Thompson C, Aitken L, Doran D, Dowding D. An agenda for clinical decision making and judgement in nursing research and education. *International Journal of Nursing Studies*. 2013;50(12):1720-26.
- [7] Lavoie P, Cossette S, Jacinthe P. Testing nursing students' clinical judgment in a patient deterioration simulation scenario: Development of a situation awareness instrument. *Nurse Education Today*. 2016;38:61-67.
- [8] Wood Mann J. Promoting curriculum choices: critical thinking and clinical judgment skill development in baccalaureate nursing students: Degree of Doctor of Philosophy. University of Kansas; 2010.
- [9] Lasater K. Clinical judgment development: using simulation to create an assessment rubric. *Journal of Nursing Education*. 2007;46(11):496-503.
- [10] Tanner C. Nursing education: current themes, puzzles and paradoxes. *Communicating Nursing Research*. 2007;40(15):03-14.
- [11] Seidi J, Alhani F, Salsali M. Clinical judgment in nursing: a concept analysis using rodgers' evolutionary method. *Hayat, Journal of School of Nursing and Midwifery, Tehran University of Medical Sciences*. 2014;20(2):01-13.
- [12] Seidi J, Alhani F, Salsali M. Nurses' clinical judgment development: a qualitative research in Iran. *Iranian Red Crescent Medical Journal*. 2015;17(9):e20596.
- [13] Graneheim UH, Lundman B. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse Education Today*. 2004;24(2):105-12.
- [14] Streubert HJ, Carpenter DR. *Qualitative research in nursing: advancing the humanistic imperative*. 5th ed. Philadelphia: Lippincott Williams & Wilkins; 2010.
- [15] Hsieh H, Shannon SE. Three approaches to qualitative content analysis. *Qualitative Health Research*. 2005;15(9):1277-88.
- [16] Wallace S. The importance of holistic assessment - A nursing student perspective. *Nurtinga*. 2013;(12):24-30.
- [17] Ghazivakili Z, Norouzinia R, Panahi F, Karimi M, Gholsorkhi H, Ahmadi Z. The role of critical thinking skills and learning styles of university students in their academic performance. *Journal of Advances in Medical Education and Professionalism*. 2014;2(3):95-102.
- [18] Levett-Jones T, Hoffman K, Dempsey J, Jeong Y-S, Noble D, Norton CA, et al. The 'five rights' of clinical reasoning: An educational model to enhance nursing students' ability to identify and manage clinically 'at risk' patients. *Nurse Education Today*. 2010;30(6):515-20.
- [19] Buzgova R, Sikorova L. Moral judgment competence of nursing students in the Czech Republic. *Nurse Education Today*. 2013;33(10):1201-06.
- [20] Brooke J, Hvalic-Touzery S, Skela-Savic B. Student nurse perceptions on evidence-based practice and research: An exploratory research study involving students from the University of Greenwich, England and the Faculty of Health Care Jesenice, Slovenia. *Nurse Education Today*. 2015;35(7):06-11.
- [21] Aghamolae T, Shirazi M, Dadgaran I, Shahsavari H, Ghanbarnejad A. Health students' expectations of the ideal educational environment: a qualitative research. *Journal of Advances in Medical Education and Professionalism*. 2014;2(4):151-57.
- [22] Heidari MR, Norouzadeh R. Nursing students' perspectives on clinical education. *Journal of Advances in Medical Education and Professionalism*. 2015;3(1):39-43.

PARTICULARS OF CONTRIBUTORS:

1. PhD Candidate, Department of Nursing, School of Rehabilitation, University of Social Welfare and Rehabilitation Science, Tehran, Iran.
2. Professor, Research Center of Emergency and Disaster Health, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran; Scientific Board Member of IPT E.V Leipzig, Germany, Department of Clinical Science and Education, Karolinska Institute.
3. Associate Professor, Behavioral Sciences Research Center, Baqiyatallah University of Medical Sciences, Tehran, Iran.
4. Associate Professor, Department of Nursing, School of Rehabilitation, University of Social Welfare and Rehabilitation Science, Tehran, Iran.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Hamidreza Khankeh,
Professor, Research Center of Emergency and Disaster Health,
University of Social Welfare and Rehabilitation Sciences, Tehran, Iran.
E-mail: ha.khankeh@uswr.ac.ir, hamid.khankeh@ki.se;map87_pour@yahoo.com

Date of Submission: **Dec 07, 2016**

Date of Peer Review: **Feb 13, 2017**

Date of Acceptance: **Mar 06, 2017**

Date of Publishing: **May 01, 2017**

FINANCIAL OR OTHER COMPETING INTERESTS: As declared above.