



## Strategies for enhancing nurses' clinical judgment in care for patients with chronic diseases: A grounded theory study in Iran

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### Original Article

#### Abstract

**BACKGROUND:** A varying background in situations of chronic diseases affects the selection of strategies in clinical judgments. This study explained the strategies used to enhance the clinical judgment in chronic diseases situations.

**METHODS:** This article was the part of a grounded theory study. Obtained data from open and semi-structured interviews were analyzed simultaneously with data collection and according to the Corbin and Strauss approach. The first experienced nurse was selected with purposive sampling and 25 other participants were selected on the basis of the theoretical sampling from different wards of the clinical and educational care centers of Sanandaj, Iran from 2011 to 2013.

**RESULTS:** As shown in results, the core variable "situation-based efforts for enhancing clinical judgment" represented the main process used by participants in the promotion of clinical judgment in situations of chronic disease. The main categories included a "comprehensive collaboration", "inclusive education", "matching of clinical judgment skills", "maintaining patient's and nurses' autonomy" in a clinical judgment.

**CONCLUSION:** Participants were trying to use strategies appropriate to different situations for clinical judgment in terms of chronic diseases conditions. Applying these processes with regard to the present context, can enhance the clinical judgment in chronic diseases situations.

**KEYWORDS:** Clinical Judgment, Chronic Diseases, Nurses, Grounded Theory

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### Introduction

Chronic diseases are different from acute diseases in terms of duration, severity and changes, care, treatment, clinical judgment, and decision-making. Chronic disease refers to a condition in which the disease process has persisted for a long time.<sup>1</sup> Patients with chronic diseases requires empowerment for self-care. Consequently patient seeks to enhance the knowledge and skills to manage their disease.<sup>2,4</sup> In this situation,

integrating clinical and theoretical knowledge is necessary and critical for caregivers, and the type of care and clinical judgment is different from other clinical situations.<sup>5</sup> In Tanner's Clinical Judgment Model, emphasis is on the background role of nurses, context, and nurse's communication with patients which is the central point in the process of clinical judgment.<sup>6</sup> Based on social judgment theory, a person's judgment depends on reality of his social environment and this environment can be seen from different angles.<sup>7</sup> So the impact of disease chronicity as an environmental truth can affect the individual's clinical judgment. This could explain the need for

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strategies to enhance clinical judgment based on position and situation.

Clinical judgment as a concept, in terms of background in various fields of medicine, has many differences and similarities<sup>8</sup> with nurses' clinical judgment.<sup>8,9</sup> The challenge here is the participation of all care providers to enhance clinical judgment. Standing showed how two different approaches (cognitive continuum theory in medicine and nursing) could be unified in clinical judgment to achieve an ideal decision.<sup>10</sup> Standing, upgraded modified version of the cognitive continuum theory from 6 to 9 factors; nine factors from the bottom to the top included: intuitive judgment, reflective judgment, Patient and peer judgment, critical review of experimental and research evidence, action research and clinical audit, qualitative research, survey research and finally experimental research.<sup>10</sup> Nursing clinical judgment as a process includes patient's plan of care, previous knowledge and experience, determination of numerous symptoms, question and search for supplementary information, combining and interpreting the available data and prioritization.<sup>8</sup> About the components of clinical judgment, nurses use knowledge and skills of observation, interpretation, prioritization, intuition, and analogy to achieve clinical judgment.<sup>11</sup>

Criticizing previous studies found that clinical judgment is different in various medical professions. However, in enhancing clinical judgment, the important element is collaborative judgment of all medical professions. In this study, it is necessary to reveal the health care team's strategies of enhancing clinical judgment in situations of chronic diseases. On the other hand, different models and theories such as Standing Cognitive Continuum Theory of clinical judgment in Nursing,<sup>10</sup> Hammond Cognitive Continuum Theory,<sup>12</sup> Tanner Clinical Judgment Model,<sup>6</sup> Lens Model, Social Judgment Theory<sup>7,13,14</sup> all referred to the characteristics of clinical judgment; however, they have not succeeded in revealing processes and background in enhancing clinical judgment. It is therefore necessary to address this important

issue. Furthermore, most of these studies were conducted in emergency situations<sup>6,15-18</sup> and few studies have been conducted in conditions of chronic disease and follow-up period after discharge.<sup>19</sup> Based on Benner's approach, variability of patients and environment are influenced by contextual factors and the type of response. Therefore, an experienced and professional nurse in clinical judgment must pay attention to variable and immediate situations of patient and the environment.<sup>20</sup> This is a gap in studies on the necessity and importance of strategies enhancing clinical judgment based on existing conditions. This study can reveal how nurses can apply strategies in enhancing clinical judgment in response to the conditions underlying chronic diseases.

## Materials and Methods

### Design

This qualitative study is part of a grounded theory one. One factor why we chose this method<sup>21,22</sup> was its suitability for complex and hidden processes<sup>23</sup> such as clinical judgment. Accordingly, since for clinical judgment nurses interact with people, this approach can reveal their concerns about clinical judgment.<sup>19,24</sup>

### Participants

Clinical nurses with at least 3 years of experience, willing to participate and the ability to provide rich experiences were selected as key participants. First key participant was selected based on purposive sampling. Other participants were selected by theoretical sampling, in accordance with the given data, based on memos, information needs and high maximum variance. Twenty-six participants were recruited into the study including 14 clinical nurses, two nursing managers (matron and clinical supervisor), two trainers, two physicians, two senior nursing students, two patients and their family members, and two nutritionists and physiotherapists. They were selected in clinical departments of three university hospitals of Sanandaj, Iran. Then, 29 interviews were performed. Based on

participant's preference, location of interview were either clinical wards of three teaching hospitals in Sanandaj or School of Nursing and Midwifery, Kurdistan University of Medical Sciences, Iran.

### *Data Collection*

For data collection, unstructured interview began with open-ended questions, with the term "clinical judgment" what type of working memory comes to your mind? After data analysis and emergence of the primary theory, the focus of subsequent interviews was based on analytical questions (based on guide produced from previous interviews). In this stage of data collection, guide interview questions were deep, semi-structured interviews; hence, based on reminder researchers were able to obtain relationship between the concepts and categories and reveal the participants' main concerns. For example, some questions from an interview guide were as follows: "Based on your experience, what factors and behaviors are effective in enhancing clinical judgment in chronic disease situations?" or, "how did you try to enhance clinical judgment chronic disease situations?". On the basis of participants' responses, exploratory questions asked until data saturation. Data collection was carried out simultaneous with the constant comparative analysis. The objective was to determine differences and similarities in data. After comparison of data, it was clear where and from whom to ask the next question (theoretical sampling). With question phrasal words (why, how, where, when, under what conditions, and what consequences), theoretical concepts were cleared. This process continued until achieving the following items: no emerging new data, transparency of connections between concepts and sub-categories, and the absence of new categories, evolution of axial categories, and the gradual emergence of the theory.

### *Data Analysis*

Based on Corbin and Strauss approach (2008)<sup>22</sup> open coding was used in analyzing data for concept, for example "face to face training, group

training, etc." were made under the category "education to patient and family". At this stage, the axial coding was done to link concepts and categories. For example, "staff training", "clinical education", and "education to patients and families" sub-categories formed the axial category "health care team comprehensive education with the patient and family". This category, along with "health care team comprehensive partnership with the patient and family in clinical judgment", "matching clinical judgment skills to chronic disease situations" analyzing data for context using memos based on paradigm model, paradigmatic components including casual condition, context condition, phenomena, intervention condition and strategies were determined (Figure 1). In this article "situation-based efforts in enhancing clinical judgment" was determined as a strategy (process). In the next stage, main process was linked to structural conditions of phenomena (causal conditions, context and intervention conditions and outcomes). The categories were linked around the central variable (Schematic view 1). From the beginning until the end of the study MAXQDA software version 2010 was used for data analysis.

### *Rigor*

For credibility we used member check, data collecting, concurrent continuous comparative analysis of data, participants trust, listening carefully and drowning in data. For dependency, various interviews data was combined. In addition to date, recorded interviews and manuscripts preserved for two years after the study for possible access of participants and observers. For confirmability, transcripts were evaluated by panel of experts and multi observers. Transferability of the study was promoted by maximum variation sample.

### *Ethical Considerations*

After approval of the proposal by the Ethics Committee of Tarbiat Modares University, permission to enter the field of research was obtained. The objective of the study and methods of interview were described for participants. The

participants were assured of the confidentiality of their name and information. Participation or refusal to participate in the study was optional. Written informed consent was obtained from participants for interviews and recordings.

### Results

Characteristics of participants are presented in table 1. Strategies employed by participants included "comprehensive collaboration", "inclusive education", "matching of clinical judgment skills", "maintaining patient's and nurses' autonomy" in clinical judgment. Indeed these categories were reflecting situation-based strategies in response to the main concern of participants (barriers to clinical judgment in situations of chronic disease). The core category titled "situation-based efforts on enhancing clinical judgment" would cover all the categories. This strategy was facilitated with the support of nurses and patients and limited by emerging barriers to clinical judgment in chronic disease situations. So the outcome of this process was "relative enhancement of clinical judgment in chronic diseases situations" (Figure 1).

#### Comprehensive Collaboration

In chronic diseases situations, patients and families, healthcare professionals had interaction in clinical judgment. In most cases, patients were consulted. Then follow-up care after discharge was performed by nurses.

"...We follow up their home care, upon their request after calling us, we provide consultation and help then in judgment and decision-making".

(Nurse 16)

Patients and their families influenced clinical judgment of physicians and nurses by providing their care and treatment experiences. "... In our judgment, listening to previous favorite songs could help to improve patient's memory. The nurse accepted, and in fact it was very helpful ...." (Brother of patient 1)

In chronic diseases situations there was ample time and opportunity for interaction between individuals. The complexity of chronic diseases required further interaction between individuals for clinical judgment. Thus, unlike other clinical situations, nurses and physicians were trying to participate in team clinical judgment.

"... While caring for patients with chronic mental diseases, we have more interaction with physicians and they check and accept our opinions well..." (Nurse 1)

Other care providers such as nutritionists, occupational therapists, physiotherapists, laboratory experts, and other members, interacting with physicians, nurses, patients and families, were trying to participate in the team clinical judgment.

"...During respiratory therapy for patient, nurse as a respiratory therapist proposed postural positions considering patient's condition and I accepted her view". (Physiotherapist)

#### Inclusive education

Participants' willingness for required education in conditions of care of patients with chronic diseases was different with other clinical situations, which was due to enough time to

Table 1. Individual characteristics of the participants

Participant	Gender		Age (year)	Educational level			Time of service as nurse (mean of years ± month)
	Male	Female		BSc	MSc	PhD	
Practicing nurses	7	7	26-47	12	2	-	14 ± 6
Nurse managers	1	1	34-44	1	1	-	18
Nurse educators	1	1	32-38	-	1	1	8 ± 4
Physicians	0	2	34-49	-	-	2	16
Junior students	1	1	23-24	-	-	-	-
Nutritionist	1		37	1	-	-	14
Physiotherapist		1	34	1	-	-	8
Hospitalized patients and their family members	1	1	36-52			-	-

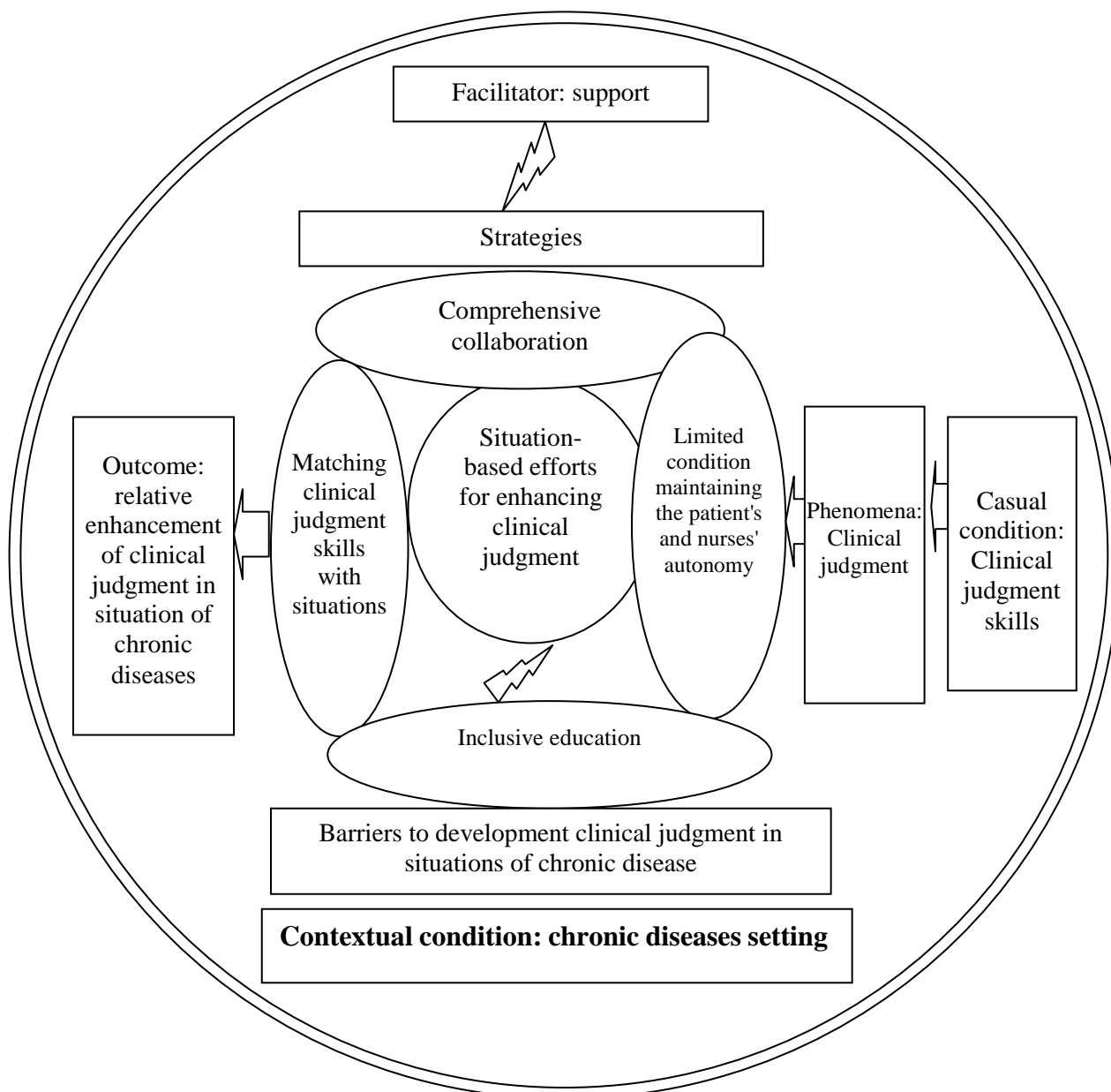


Figure 1. Psycho-social process for nurses' clinical judgment in the care for patients with chronic diseases

clinical judgment, the nature of chronic diseases, long-term care of chronic patients and patients' different needs. In the field of clinical education there was sufficient time to collect information and evidence to enhance clinical judgment. Participants used approaches such as holding conferences, case report, and providing educational pamphlets.

"... In turn, in the internal ward, a patient was chosen and was presented to others as a case

report." (Student 1)

In the field of personnel education, physicians and nurses had more interaction with patients and their family. There was ample opportunity for the exchange of information between clinical individuals. "With the case report, conference and preparing educational pamphlet we were seeking to educate and to monitor students in clinical judgment." (Instructor 1)

Chronic diseases situation gave the



opportunity of face-to-face training or follow-up after discharge to participants. These trainings provided better clinical judgment in participants:

"During hospitalization of diabetic patients in the ward, I gave them face-to-face training and telephone counseling." (Nutritionist)

### **Matching clinical judgment skills with chronic disease situations**

Experiences of participants in matching clinical judgment skills such as knowledge and experience, evidence documentation, reasoning, critical thinking, intuition and considering professional ethics in different clinical situations were not the same. In conditions for care of chronic patients, there was enough time to use scientific contents such as the results of scientific papers, and educational materials, which ended up in creating guide lines:

"...Some colleagues argued based on their experiences, we matched their experience with clinical evidence and condition. Then we conclude the right judgment." (Nurse 15)

Protocols and guidelines were considered as standard evidence that in chronic disease situation their effectiveness and accuracy in judgment was confirmed by reasoning skill and matching with other evidence and experience:

"...We have the ample opportunity to match the guidelines for the care of chronic respiratory disease with evidence such as the results of research papers and experience". (Nurse 10)

In chronic disease situations and in terms of professional ethics, participants respected each other's opinions and beliefs and in case of errors, they corrected each other's opinions by reasoning and based on their experience:

"... After transferring patient to internal ward, the nurse had the opportunity to communicate and interact with the patient after taking patient's history and to adapt patient's condition with physician order". (Physician 1)

### **Maintaining autonomy of patients and nurses in clinical judgment**

In the caring of patients with chronic disease, authority of nurses, patients and families in

clinical judgment was more because they had more time. Besides, the nature of the chronic disease had forced physicians and nurses with independent interventions led patients to empowering and maintain independence in self-care, particularly in the field of clinical judgment:

"...We conducted independent nursing interventions such as teaching bud lips breathing or respiratory physiotherapy. These interventions caused patient independence in clinical judgment." (Nurse 13)

Under the care of patients with chronic diseases, nursing duties were more extensive and enabled them to use helping nursing models to preserve patient independence:

"...Based on Orem's Self-care Model, we encourage the patient to do self-care ...". (Nurse 16)

Chronic diseases situations require specialized nurses in care for patients with chronic diseases. Specialist nurse was able to judge specialized clinical judgment in the field chronic diseases.

"... We have reflected specialization of nursing in the care of chronic diseases to the Ministry's Committee" (Nursing director 1).

## **Discussion**

In the present study, all the clinical individuals (Table 1) in chronic diseases situations were seeking clinical judgment enhancement. Everyone in the group tried to encourage patients and families to participate in the clinical judgment and decision-making. In this condition, the opportunity to interact was more and therefore the opinion and experience of nurses and patients and other healthcare team members were considered by physicians. Patients and families were more closely connected to healthcare team members; consequently in the chronic diseases situations, physicians were more confident in comparison to nurses and clinical experts. Elliot in a study on caring chronic patients found that, in the process of clinical judgment "mutual interacting" could be the core of participation of patient and family. Dialogue and consultation to the patients were including strategies used to achieve mental and social process.<sup>19</sup> The results of

this study were similar to recent study from this point of view that they were seeking to interact with patients and patient participation in the clinical judgment. But the difference was that in the recent study, participants were seeking inclusive interaction and participation of all clinical individuals in the clinical judgment.

In the present study, there was required and appropriate time for the inclusive education of patients and family and health care team. Therefore, type of training methods differed from other clinical situations. For example, nurses by educating patients and their families, in face-to-face or by telephone counseling after discharge were trying to enhance their clinical judgment. According to Smith, providing telephone counseling and using algorithms of causes and solutions to overcome crying infants were trying to counsel parents of those infants. By necessary training to parents, they tried to change their judgment about their crying children. And the modification of judgment led to the parents' adaptation with their children and appropriate intervention was conducted by parents.<sup>25</sup>

In this study, matching clinical judgment skills to situations of chronic diseases was appropriate strategy for enhancing clinical judgment. In this study guidelines and the experience and knowledge of people would be adapted with evidence such as the results of scientific work and research papers. Then, based on the evidence their correctness was argued. Cranley found that inappropriate combining of clinical knowledge and experience with time and place was the basic barrier for estimating probabilities by the nurse in the clinical judgment.<sup>26</sup> For example, intuition based on experience or knowledge alone cannot be the basis of correct clinical judgment, but integrating with other sources such guidelines would be helpful.<sup>27</sup> On the other hand, clinical judgment is "used reasoning" required for clinical individuals concurrent with the continuing interaction with their patients.<sup>28</sup> In Hammond's cognitive continuum, intuitive judgment facilitates reaching speeds to judgment which is appropriate for emergency. However, clinical

judgment stemming from reasoning specifies the method to achieve judgment that suits for situations such as chronic diseases.<sup>7</sup> In fact the most appropriate skill for clinical judgment is between reasoning and intuition.<sup>29</sup>

In the present study, the majority of participants were seeking to maintain the independence of patients and nurses. Having sufficient time the independent nursing interventions such as counseling and education, using nursing models such as the Orem self-care model was conducted. This caused that patients and families have more independence for their clinical judgment and self-care. In many studies, nursing models such as Orem's self-care model was able to maintain patients' independence, judgment and decision-making in self-care.<sup>24</sup> Duties of nurses in this study were more extensive than in other clinical situations and that would provide background for the independent clinical judgment. Organizational support can develop nurses' tasks.<sup>30</sup> Relying on skills such as experience, reasoning, evidence, ability to communicate and interactions can maintain professional independence for clinical judgment.<sup>31,32</sup> In the chronic diseases situations, achieving these criteria is easier than other clinical situations.<sup>19,33</sup> Finally, the participants in this study were trying in situation-based effort to enhance clinical judgment based on chronic diseases conditions. This was an abstract concept covering all major categories of the study which had other sub-categories. In fact criteria for enhancing clinical judgment as sub-strategies such participation, education, independence and clinical judgment skills in many of the studies were consistent with the results of the present study.<sup>34-36</sup> The difference between this study and other studies was that this study revealed process of enhancing clinical judgment in the chronic diseases situations.<sup>37-39</sup>

Limitation of this study was that the structure of clinical judgment and its relation to process was not presented. Although it has been illustrated in figure 1, the focus of this study was on introducing used strategies in enhancing

nurses' clinical judgment. The reason was that the article is part of an original grounded theory study. Another limitation of the study was low transferability of the study, which is the nature of a qualitative study.<sup>40</sup>

### Conclusion

Based on the situations, participants used different strategies for achieving the right clinical judgment. In fact core variable was a strategy that participants in relation to the condition and care of patients with chronic diseases were seeking integration of enhancing clinical judgment criteria such as participation, education, clinical judgment skills, and maintaining independence of patients and nurses in clinical judgment.

It is necessary that clinical nurses, nursing management, physicians, patients, family and other individuals interacting together on the clinical situation of chronic diseases use different strategies to form other situations to perform right clinical judgment. This requires further clinical research and training in situations of chronic diseases. Therefore it is recommended that studies make appropriate tools with respect to condition of patients suffering from chronic diseases in the future, until criteria in enhancing clinical judgment in the patient care are evident.

### Conflict of Interests

Authors have no conflict of interests.

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