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# Novice nurses' professional competence: A qualitative content analysis

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## Abstract:

**BACKGROUND:** Novice nurses comprise a significant number of health personnel who are working in health systems. The significance of acquiring professional competence by nurses entering the hospital will ensure results such as professionalizing and giving quality services. This study aimed to explain the needs, facilitating and inhibiting factors of novice nurses' professional competence.

**MATERIALS AND METHODS:** This qualitative study was done using a conventional content analysis method at Shiraz University of Medical Sciences, Iran, in 2021–2022. The study participants included 15 novice nurses, supervisors, head nurses, and nurses in the departments where novice nurses operate. Participants were selected purposefully. Data were collected through 17 sessions of deep and semistructured interviews and 16 sessions of semistructured field observations until data saturation was reached.

**RESULTS:** Following data analysis, 2570 initial codes were extracted forming four subcategories, two categories, and one theme. The theme of the present study entitled “on the path to becoming a professional” included two categories “strengthening professional skills” and “committed adherence to the profession.”

**CONCLUSION:** The concept of professional competence in novice nurses occurred through on the path to becoming a professional. This concept included strengthening professional skills and committed adherence to the profession. Policymakers and educational planners of nursing education can use the results of this study to get acquainted with this concept and develop policies and guidelines to develop professional competence. By getting familiar with the concept of novice nurses' professional competence, facilitating and inhibiting factors can educate competent nurses.

## Keywords:

Clinical competence, nurses, professional competence

## Introduction

Novice nurses are part of the nursing community. They work in various centers such as hospitals, nursing homes, schools, research centers, universities, home care centers,<sup>[1]</sup> and telenursing care during disaster management.<sup>[2]</sup> Therefore, every year, thousands of novice nurses enter this profession with a great passion for the nursing profession.<sup>[3]</sup> When entering the clinical setting, most novice nurses

acknowledge that after the orientation period, they still need more guidance and support.<sup>[4]</sup> Here, due to the lack of sufficient support, their retention in this profession is reduced; as a result, job dissatisfaction will be created, and leaving the profession can impose high costs.<sup>[4]</sup> A study by Sherman and Dyess showed that during the first and second years of employment, 30% and 57% of novice nurses left their profession, respectively.<sup>[3]</sup> In addition, healthcare systems are facing an increase in the mandatory retirement of experienced and

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competent nurses, which will require the retention of novice nurses.<sup>[5]</sup>

Different healthcare centers are changing day by day for reasons such as changes in diseases, diverse needs of people, and rapid aging of the population.<sup>[6]</sup> The World Health Organization states that one of the strategies in the field of health human resources is to provide the nursing workforce by 2030. For this purpose, effective use of limited resources, skill acquisition, and continuous professional development is very important.<sup>[7]</sup> Then, all nurses, as providers of comprehensive care to patients, are expected to take care of and protect the patients by applying their professional responsibilities.<sup>[6]</sup> It should be noted that improving the quality of care is directly related to the professional competence of nurses.<sup>[8]</sup> The first step to improve nurses' preparedness as the health team is identifying their competence.<sup>[9]</sup>

Competence is a behavioral characteristic and the acquisition of ability resulting from learning and experience, which a person achieves by establishing motivation and attitude as well as taking advantage of personal experiences and interests.<sup>[6]</sup> The professional competence of nurses includes two dimensions. The first dimension is related to the time when the nurse enters the clinical setting, and the second dimension is related to the nursing profession.<sup>[10]</sup> Professional competence can be considered as a continuum that may develop or even reduce over time depending on various factors.<sup>[11]</sup> The development of nurses' competence is a continuous process that is operationalized through increasing the knowledge, attitude, and skills of nurses.<sup>[12]</sup> Acquiring different competencies will lead to different achievements<sup>[6]</sup> as improving the competence of nurses will play a significant role in the professional socialization of nurses.<sup>[13]</sup>

According to the results of a study, 57% of novice nurses have not been able to meet the necessary expectations about different dimensions of professional competence, such as direct patient care, interpersonal communication, and health promotion when they enter the clinical setting.<sup>[14]</sup> Also, in a study by Jaffari Golestan *et al.*,<sup>[15]</sup> the investigation of the professional competence of novice nurses in Iran showed that the clinical competence of this group of nurses was at a weak level in the fields of cognition, communication with the patient, and clinical performance for specialized and general care in all treatment departments.

The reduction in professional competencies of novice nurses has caused irreparable risks and complications in the healthcare system. Increasing professional nursing errors is one of the risks reported by novice nurses.<sup>[16]</sup> In addition, in a study by Zagheri Tafreshi

*et al.*,<sup>[17]</sup> experiences with medication errors were reported in novice nurses. Ebrahimpour *et al.*,<sup>[18]</sup> stated that novice nurses were among the causes of medication errors among nurses. Such errors will result in complications such as prolonged hospitalization, increased treatment costs, increased death, and reduced trust in the medical system.<sup>[19-21]</sup>

The field of nursing in Iranian universities starts with a bachelor's degree and continues to master's and Ph.D. degrees. Applicants for bachelor's degree participate in the national entrance exam competitively and are admitted to nursing schools of Islamic Azad and public universities based on their ranking. In the 4-year bachelor's degree course, nurses acquire the necessary knowledge and skills to enter the nursing profession by passing 69 theoretical units of basic and specialized courses and 39 units of internship in the field. The order of passing the course units is such that first the theoretical courses and then their practical courses are completed by attending different clinical departments under the supervision of educators and professors of the university. After completing the bachelor's degree, nurses first complete their clinical course as a human resource plan for a maximum of 24 months in different clinical departments. Hence, when nurses enter the clinical setting, hospitals usually have a monthly orientation for nurses, and if they get the required score, they get permission to start their clinical work.

The studies have mainly investigated the professional competence of the nursing community and less attention has been paid to novice nurses; the researcher attempted to study this group of nurses. The importance of paying attention to the improvement of novice nurses' professional competence is clear given that every year a large number of them enter the clinical setting and face many needs regarding the professional competence. If these needs are not met, many novice nurses will leave the nursing profession. If these nurses stay in the healthcare system, the quality of nursing care will reduce and the health of society will be endangered. On the other hand, by increasing the patients' dissatisfaction with nurses' care, the value of the nursing profession will be reduced in society. Therefore, it was necessary to identify the professional competence needs in novice nurses. Needs assessment has not been done according to the conditions and context of the Iranian novice nurses. Given the complexity and multidimensional nature of professional competence, addressing the needs of professional competence in nurses requires comprehensive investigation and deeper understanding. Also, reviewing the views of novice nurses and their colleagues regarding the needs related to the novice nurses' professional competence seems to be effective and necessary. Given that, lack of qualitative studies

and the importance of them in exploring experiences, beliefs, and values of novice nurses, the present study was conducted to explain the needs, facilitators, and inhibitors of novice nurses' professional competence. Therefore, in this study, a qualitative study was conducted to clarify the views of people and deeply understand the needs of professional competence of novice nurses.

## Materials and Methods

### Study design and setting

The current study was conducted as a section of a Multiphase mixed method study, with qualitative methodology using the conventional content analysis method, in teaching hospitals affiliated to Shiraz University of Medical Sciences in 2021–2022. This study aimed to explain the needs, facilitating factors, and inhibiting factors of professional competence of novice nurses from the point of view of novice nurses, supervisors, head nurses, and nurses in the departments where novice nurses operate.

### Study participants and sampling

The study participants are novice nurses, supervisors, head nurses, and nurses in the departments where novice nurses operate working in Namazi, Shahid Faghihi, and Trauma Center teaching hospitals affiliated to Shiraz University of Medical Sciences, who met the inclusion criteria. The inclusion criteria include the following: nurses with working experience of fewer than two years, supervisors, head nurses, and nurses in the departments where novice nurses operate, having a working experience of more than six months with novice nurses, having a bachelor's degree in nursing or higher, and having informed consent to participate in the study. Withdrawal from the study during or after the interview was considered as the exclusion criterion.

Participants were selected using the purposive method. In this regard, the researcher selected participants with maximum diversity (age, gender, education level, graduates from Islamic Azad and public universities, and employment in different treatment departments in the three studied centers) who could transfer their experiences, and as key informants (those who had enough insight into the subject of the study and could interact efficiently, and the interview about the organization, group, problem and social program was done with these people) provided rich and valuable information to the researcher. Selection of participants, interview, and observation continued until data saturation was reached when no new data and categories appeared and the existing data and categories reached the required richness.<sup>[22]</sup>

### Data collection

After obtaining approval from the Research Ethics Committee of Shiraz University of Medical Sciences, the researcher referred to the vice chancellor for research and technology at Shiraz University of Medical Sciences to obtain the necessary permits for performing the study. Then, permission was obtained from management, the vice chancellor for research and technology, nursing manager, and security by referring to Namazi, Shahid Faghihi, and Trauma Center teaching hospitals affiliated to Shiraz University of Medical Sciences. The researcher received information about novice nurses. Initially, participants were selected purposively and based on the inclusion criteria. Then, they entered the study.

In the current research, two qualitative methods of interview and observation in the field were used to explain the needs, facilitating factors, and inhibiting factors of novice nurses' professional competence.

### Qualitative interview

The semistructured interviews were conducted individually and face-to-face in Nursing and Midwifery Faculty of Shiraz University of Medical Sciences. During the peak of the Covid-19 pandemic, due to the infection of some novice nurses with Covid-19, they could not participate in the face-to-face interview, and as they wished, the interview was conducted through various virtual tools.

The researcher determined the time and place of the interviews considering the participants' convenience and privacy. The researcher announced the approximate time of the interview to the participant and stated that if the participant requested, the interview time would be extended, and the interview would be postponed to another time due to his/her fatigue and/or lack of concentration. The interviews lasted from 40 to 77 min, with an average of 56 min in a private, comfortable place away from the noise. During the not-in-person interview, the participant was asked to be in a quiet and comfortable place. In face-to-face interviews, voice recording was done by a voice recorder and by voice recording software in not-in-person interviews.

In this study, eight novice nurses and seven supervisors, head nurses, and nurses in the departments where novice nurses operate were interviewed during 17 sessions. Two novice nurses were interviewed twice. Additional interviews were conducted with these two nurses because some of the answers were not fully and clearly stated, and the researcher, to clear the ambiguity and better understand the experiences of participants, conducted interviews again.

Interviews were conducted according to the objectives of the study. For this purpose, the needs related to the professional competence of novice nurses, facilitators, and inhibitors of professional competence were explained and continued until data saturation was reached. Therefore, interviews began based on the interview guide with a few general questions [Table 1], and then according to the interview path, memoing, and the information provided by the participants, the next questions were asked.

During the interview, techniques such as gaining the participant's trust, active listening, summarizing the participant's speech, and asking probing questions were used. At the end of the interview, the participant was asked to talk about another matter related to the professional competence of novice nurses, if he wished. In this way, the researcher was confident about receiving all the experiences of the participants. At the end of the interview, the researcher summarized the content, acknowledged the participant, and gave him a gift to show his appreciation. Also, the researcher once again assured the participant about the confidentiality of the interview and audio recording. According to the participant's answers and the need to conduct additional interviews, the possibility of continuing the interview in the next sessions was announced to the participants.

### *Observation in field*

In the current study, in addition to the interview, 16 sessions of semistructured field observation were conducted in different departments of Namazi, Shahid Faghihi, and Trauma Center teaching hospitals affiliated to Shiraz University of Medical Sciences for 88 h.

For maximum diversity, the morning, evening, and night shifts and departments of plastic surgery, neurosurgery, orthopedic surgery, adult emergency, general emergency, and general internal medicine of teaching hospitals affiliated to Shiraz University of Medical Sciences where novice nurses worked were observed. The researcher referred to the department after obtaining the permission of the head nurse and explaining the objectives of the observation.

**Table 1: Interview guide**

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Describe the professional competence in nursing.
What are the components of professional competence in nursing in your view?
What are the characteristics of a competent nurse?
What factors affect the professional competence in nursing?
Can you explain the factors facilitating professional competence in nursing?
Can you explain barriers to professional competence in nursing?
What are the solutions to promote professional competence in nursing?

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The researcher was present as a complete observer in the department and observed the novice nurses in different departments. The researcher asked the head nurse to make observations without official participation in nursing activities. The observations were focused on cases such as the performance of novice nurses in clinical skills, professional communication of novice nurses with colleagues and patients, cooperation of the personnel with novice nurses, the way of division of work, and the fields that require the acquisition of professional knowledge and skills; we continued until data saturation was reached.

The observation guide was prepared consistent with the objectives of the study on the experiences of the interviewees to complete. A note in the field was based on the observation guide to answer questions such as "How do novice nurses perform clinical skills?", "To improve professional competence, in what fields do novice nurses need to acquire knowledge?", "In what cases, do personnel cooperate with novice nurses?" After each observation session, the researcher recorded observations based on personal notes at the first opportunity. Thus, all the useful information was accurately recorded.

### **Data analysis**

The data obtained from the qualitative study was analyzed simultaneously with qualitative data collection. For data analysis, MAXQDA 10 was used, relying on conventional content analysis according to Graneheim and Lundman (2004). For this purpose, the interviews were read several times word for word and a general understanding of the text of the interviews was made. Then, the text of each of the interviews was fully implemented and the experiences of the participants regarding the needs, facilitators, and inhibitors to improve the professional competence of novice nurses were put together in a single text consisting of units of analysis.

Next, condensed meaning units were obtained by extracting meaning units from the text of the interviews and their condensation. Condensed meaning units were abstracted and labeled using appropriate codes. Reflexivity continued until agreement regarding the approval of the codes. Then, different codes were compared based on differences and similarities and categorized into sub-subcategories, sub-sub-categories that form manifest content. The obtained sub-subcategories and sub-sub-categories were categorized into categories based on differences and similarities. In this step, the categories made by six researchers were discussed, and reflexivity was revised and continued until agreement regarding the sorting of categories. Finally, a suitable title that included the underlying meaning of the categories



emerged in the form of a theme, which forms the latent content of the categories.<sup>[23]</sup>

### Trustworthiness

In this study, four criteria proposed by Lincoln and Guba (1986) including credibility, dependability, confirmability, and transferability were used for data trustworthiness.<sup>[24]</sup> Prolonged engagement, member check, peer check with six colleagues who had experience in the field of study, and using different information sources and different data collection methods were considered to achieve credibility. For dependability, the audit trial process was done by two external observers (two female faculty members of Shiraz Nursing and Midwifery Faculty with 15 and 29 years of teaching and research experience). External observers were present with the research team from the beginning to the end of the study and verified the final results.

For the approval of conformability, the study results by external observers, supervisors, and research advisors were confirmed. Further, conducting interviews with continuous reflexivity by the researcher and analyzing the data without bias of the researcher were done. Participants recruitment with maximum variety and detailed description of participants, the site and context of the study, the research method, and the results were fully performed to approve transferability.

### Ethical considerations

This study was approved by the Research Ethics Committee of Shiraz University of Medical Sciences (Approval ID: IR.SUMS.NUMIMG.REC.1400.033, approval date: 2021.15.09).<sup>[25]</sup> While explaining the objectives of the study and emphasizing the completely optional participation in the study, informed consent was obtained from all participants. In not-in-person interviews, the researcher received the participant's consent. All methods were carried out in accordance with relevant guidelines and regulations. Before starting the interview, to gain the participant's trust, after introducing the researcher, the researcher provided the necessary explanations regarding obtaining the code of ethics for the research and the necessary permits from the relevant officials. The rights of the participants in case of unwillingness to answer some questions and the independence of their vote in cooperation and noncooperation in the research were respected and their free exit was emphasized.

The researcher explained the objective of recording the participant's voice and taking notes during the interview, while obtaining permission from the participant, emphasized the confidentiality of the information and the anonymity of the interview. For confidentiality, the audio and text files of the interviews were anonymous

and named by a number. In another file, the names of the participants were numbered sequentially, and this file was kept separately in a separate place from the audio and text files of the interviews.

## Results

In the current study, 53.30% of the participants were novice nurses and 46.70% were supervisors, head nurses, and nurses in the departments where novice nurses operate. The participants with the age range of 22–44 years and with a mean age of  $29.60 \pm 7.52$  participated in the interview. In total, 20% of the participants were male and 80% were female. Among the total, 46.70% of them were graduates of Islamic Azad universities and 53.30% graduates of public universities. In terms of the education level, 86.70% had bachelor's degrees and 13.30% master's degrees. The years of working experience of novice nurses ranged from 2.33 to 16 months, with an average of  $35.22 \pm 6.4$ . Also, the years of working experience of supervisors, head nurses, and nurses were reported from 3.75 to 20 years with an average of  $12.72 \pm 5$ . Other demographic characteristics are shown in Table 2.

In the current study, the needs, facilitating factors, and inhibiting factors of novice nurses' professional competence were extracted from the two qualitative methods of interview and observation in the field. After analysis of the data, finally, 2450 codes were extracted from 17 interviews and 120 codes from 88 h of observation in the field.

Finally, a comprehensive needs assessment regarding the needs of professional competence of novice nurses was conducted based on 2570 nonrepetitive codes obtained from the interviews and observations in the field. After data analysis, the primary codes were categorized into one theme, two categories, four subcategories, and 24 sub-subcategories based on differences and similarities. The theme "on the path to becoming a professional" includes two categories of "strengthening professional skills" and "committed adherence to the profession" and four subcategories of "technical skills development," "using up-to-date knowledge in care," "strengthening professional ethical values," and "patient-centered care development" [Table 3].

### Strengthening professional skills

The analysis of the data obtained from the present study showed that strengthening professional skills, as one of the most basic needs of professional competence of novice nurses, has been repeatedly mentioned. As most of the participants stated in the interviews and the researcher also encountered this need in the observation in the field, the nurse's competence in implementing

**Table 2: Demographic characteristics of the study participants (n=15)**

Participant	Sex	Age (y)	Working experience	Position	Type of university	Education level	Department
P1	Female	25	2.33 Months	Novice nurse	Public	Bachelor's degree	Pediatric surgery intensive care unit
P2	Female	25	8 Months	Novice nurse	Public	Bachelor's degree	General internal medicine
P3	Female	22	5 Months	Novice nurse	Public	Bachelor's degree	Emergency intensive care unit
P4	Female	24	5.67 Months	Novice nurse	Public	Master's degree	Emergency intensive care unit
P5	Male	30	3.75 Years	Nurse coworker	Islamic Azad	Bachelor's degree	General emergency
P6	Female	23	4.33 Months	Novice nurse	Public	Bachelor's degree	Oncology surgery
P7	Female	24	4 Months	Novice nurse	Public	Bachelor's degree	Neurosurgery intensive care unit
P8	Female	23	5.50 Months	Novice nurse	Public	Bachelor's degree	Surgical intensive care unit
P9	Male	30	6.50 Years	Nurse coworker	Islamic Azad	Bachelor's degree	Adult glands
P10	Female	32	9.50 Years	Charge nurse	Islamic Azad	Bachelor's degree	Plastic surgery
P11	Female	24	16 Months	Novice nurse	Islamic Azad	Bachelor's degree	Orthopedic surgery
P12	Female	42	16.25 Years	Head nurse	Islamic Azad	Bachelor's degree	Orthopedic surgery
P13	Female	39	13 Years	Head nurse	Islamic Azad	Bachelor's degree	Orthopedic surgery
P14	Female	44	20 Years	Supervisor	Islamic Azad	Bachelor's degree	-
P15	Male	37	15 Years	Supervisor	Public	Master's degree	-

**Table 3: Sub-subcategories, subcategories, categories, and themes from content analysis of professional competence**

Theme	Main categories	Subcategories	Sub-subcategories
On the path to becoming a professional	Strengthening professional skills	Technical skills development	<ul style="list-style-type: none"> <li>• Acquiring clinical skills</li> <li>• Attention to clinical instructions</li> <li>• Strengthening skills in working with hospital equipment</li> <li>• Acquiring skills to work with Hospital Information Systems (HIS)</li> </ul>
		Using up-to-date knowledge in the care	<ul style="list-style-type: none"> <li>• Strengthening the knowledge of patients' care</li> <li>• Using theoretical knowledge in the clinical setting</li> </ul>
		Committed adherence to the profession	<ul style="list-style-type: none"> <li>• Regarding fairness and conscience for care</li> <li>• Having honesty in the care</li> <li>• Strengthening the spirit of tolerance</li> <li>• Promotion of professional responsibility</li> <li>• Attention to the legal components of the profession</li> <li>• Improving professional communication</li> <li>• Strengthening teamwork</li> </ul>
		Patient-centered care development	<ul style="list-style-type: none"> <li>• Providing education based on the demands of the patient and the patient's companion</li> <li>• Attention to empathy in care</li> <li>• Honoring the patient by nurses</li> </ul>

various technical skills has always been considered as one of the elements of developing competent nurses, and the application of nursing knowledge for care has played a significant role in strengthening their professional skills, which included two subcategories of “technical skills development” and “using up-to-date knowledge in care.”

### Technical skills development

The development of technical skills is one of the subcategories of strengthening professional skills that were extracted from the data analysis. According to the participants, professional competence is achieved when nurses first acquire various nursing skills and follow clinical standards and guidelines for patient care. Consistent with clinical skills, it is necessary to acquire skills in working with hospital equipment and Hospital Information Systems (HIS).

### Acquiring clinical skills

The importance of acquiring clinical skills in the nursing profession is clear. In this study, according to the participants, depending on the department where they work, competence in skills specific to that department is required. Most of the nurses pointed to clinical skills such as medication administration, sample line, various dressings, suction, cardiopulmonary resuscitation, and delivery and transformation of patients. In this regard, participant 8 said:

*“... To say that a nurse is suitable for the nursing profession and has the competence for this work in the practical field, it is very important that she can have enough self-confidence to do the work and manage her patients. Practically, it depends on the department. Every department needs more procedures ...”.*

### Attention to clinical instructions

In the nursing profession, specific instructions have been defined to improve the quality of nursing services and care. In this regard, the participants in this study mentioned cases such as familiarity with standard precautions, ensuring patient safety, familiarity with professional errors, and error reporting.

*"... Professional competence is the extent to which the person believes in the standards set for the profession, with which he complies, for example, the standards related to infection control, correct procedures, and compliance with the five hand hygiene positions ..."* (Participant 4).

*"... If the nurse sees the error, if she didn't do it herself, she will realize not to do it again. It means avoiding that error. If she did it herself and they report it, it still affects the next error not happening anymore. Having competence means that there would be fewer errors, and one can help that organization get closer to the vision, objectives, and rules ..."* (Participant 3).

### Strengthening skills in working with hospital equipment

According to the participants in our study and the observation of the researcher, strengthening the skill of working with hospital equipment is effective in developing the technical skills of novice nurses and acquiring competence.

*"... Once the department attending physician told me that you become a good Intensive Care Unit nurse without feeling responsible for all the devices in the department and learning them all .... I should not always wait for one to set the device for me ..."* (Participant 4).

### Acquiring skills to work with HIS

In recent years, with the advancement of technology, the nursing profession has faced changes in the care of patients, and part of the indirect care of patients is done by the HIS. However, nurses who enter the hospital for the first time are not familiar with the HIS and introduce it as one of the requirements of professional competence. In this regard, participant 5 said:

*".... Some of the novice nurses sometimes still need help to work with the HIS. They don't get oriented at all and have to get oriented themselves .... I remember when I came, the hardest thing was to record the patient's medicine in the system ..."*

### Using up-to-date knowledge in the care

Another subcategory that emerged from the category of strengthening professional skills is the use of up-to-date knowledge in care. This means that, in addition to strengthening practical skills, novice nurses should increase their knowledge by acquiring theoretical knowledge and reviewing it periodically. In this study,

novice nurses stated that they had good theoretical knowledge due to not taking time away from their studies. However, one of the conditions for improving clinical competence is the use of theoretical knowledge in the nursing clinic. This will lead to consolidating and not forgetting knowledge.

### Strengthening the knowledge of patients' care

The participants acknowledged that having theoretical knowledge of patient care and trying to strengthen and consolidate knowledge is necessary. The nurses stated that according to the department where the nurse works, knowing patient care related to that department is effective in acquiring competence.

*"... The scientific dimension is also a component of competence. We should know everything, but it is better to be fully oriented in the department where we are working at the moment .... In any department, according to the needs, certainly, the personnel of that department have more expertise ..."* (Participant 12).

### Using theoretical knowledge in the clinical setting

The results showed that nurses should first acquire knowledge about different diseases and how to care for them. The experiences of the participants show that the knowledge will be useful when it is properly applied in the clinical setting. For example, participant 7 said:

*"... A nurse's awareness of what she is doing and her information, and how to use that information correctly is professional competence. For example, if I want to give medicine to my patient, I should know that medicine ... and according to my information I will use it ..."*

### Committed adherence to the profession

The analysis of the results of the interview and observation indicated that commitment to the profession is the second category of the theme of the study. According to the participants in this study, the knowledge and clinical skills of novice nurses are not enough to achieve professional competence, and paying attention to moral values for patient care is very important. Also, paying attention to the patient as the center of care will help to have competence. Thus, committed adherence to the profession includes two subcategories "strengthening professional ethical values" and "patient-centered care development."

### Strengthening professional ethical values

In this study, according to the participants, strengthening professional ethical values is a factor affecting professional competence. In this study, nurses stated that adherence to ethical considerations consistent with other needs of professional competence could not be ignored. The values of professional ethics have been considered

one of the basic components of acquiring competence and include cases such as fairness, honesty, tolerance, and responsibility in providing care. In addition, many participants have considered paying attention to the principles in nursing, and other dimensions of professional ethics, such as acquiring communication skills and strengthening teamwork as useful to have professional competence.

### Regarding fairness and conscience for care

One of the values of professional ethics mentioned by novice nurses is fairness and conscience in patient care. According to the study results, the way of raising a person in the family plays an important role in the conscience and fairness of nurses. According to nurses, conscience plays an important role in the quality of patient care, and the high workload of nurses can exceed one's conscience and reduce the attention they pay to patients and the quality of services. In this regard, participant 5 said:

*"... In my opinion, being fair has a great effect on the behavior of that nurse with the patient. In my opinion, if a nurse has acquired professional competence, it is the same as being fair. She cares for the patient and supports the patient mentally. If the patient is really important, she takes care of the patient ...".*

### Having honesty in the care

Honesty in patient care is one of the ethical values that nurses mentioned many times. Nurses reported cases such as lack of time, high workload, legal requirements, lack of work conscience, lack of manpower, and weakness in teamwork as barriers to honesty in care.

*"... Legally, we have to write a very complete note. Maybe, we can't do all the things we write in that note in that shift. Of course, this is very painful for me .... Ideally, it happens when I have time ..."* (Participant 12).

### Strengthening the spirit of tolerance

Nurses have always been known as patient people, and patience has been introduced as one of the characteristics of nurses. The study results also showed that the patience of nurses plays an important role in various dimensions such as providing care services and dealing with colleagues and patients.

*"... The threshold of patience is too important. You are in a relationship with every person, every companion. When your patience is higher, it is better for you; anyway, you are more comfortable in the department. In my opinion, patience and tolerance are very important ..."* (Participant 1).

### Promotion of professional responsibility

Professional responsibility was another requirement of professional competence that was mentioned by

many nurses in the present study. If capable nurses in fields such as professional knowledge and skills are responsible, they will be able to have professional competence. For example, participant 4 said:

*"... Means that you should completely observe, monitor, and pay attention to everything about your patient. In some departments, there is a flow sheet that checks, for example, if the patient has not defecated for several hours ... or if we should change position every two hours .... In the department, this is very important to me ...".*

### Attention to the legal components of the profession

Paying attention to the laws in the nursing profession and performing professional duties accordingly was expressed as one of the needs of competence. However, some nurses are worried about this issue and avoid following the rules for reasons such as the lack of knowledge of professional rules and following their colleagues.

*"... We have become more dependent on the physician. Because the order is with the physician; for example, in some places if we are also literate, but at the end, what the physician orders is important. for not having a legal problem ..., we have to implement what the physician orders finally ..."* (Participant 2).

### Improving professional communication

Improving professional communication is considered as a very important issue in professional ethics, and many nurses in our study repeatedly referred to this issue and considered it important for developing professional competence. Improving interpersonal communication with the colleagues and patients is one of the important factors that, along with improving professional communication, will lead to having the desired professional competence in novice nurses. In this regard, participant 10 said:

*"... For work, especially nursing, as we are in contact with everyone, we face many problems. For example, many patients are dissatisfied. You should be very calm, so that you can manage that problem at that moment ...".*

### Strengthening teamwork

To acquire professional communication skills, nurses will be able to strengthen their teamwork skills. Along with acquiring communication and teamwork skills, it is necessary for the organization to support teamwork and spread its culture. In this regard, health team members must be fully aware of their duties and act accordingly.

*"... There should be teamwork in the hospital. For example, physical protection should do well .... A nurse should not get involved with the patient's companion .... A nurse should work only with the patient. Then, she can do her*



*job properly. When the department is calm, the nurse will keep calm and do what she is doing. The errors and problem will be less ...” (Participant 13).*

### Patient-centered care development

As stated in the previous categories, the capabilities of nurses in various dimensions are inevitable to have professional competence. Paying attention to these skills is not enough to achieve competence, and considering the patient as the core of care is necessary to have competence. The results of the analysis of the data obtained from the participants showed that one of the factors of committed adherence to the profession is the development of patient-centered care. According to the participants, providing education based on the patients’ needs, empathy with patients, and honoring patients are examples of patient-centered care.

### Providing education based on the demands of the patient and his/her companion

One of the patient-centered care factors is patient education. The nurses of this study stated that patient education would be effective when it is provided based on the needs of the patient and his family. Paying attention to the patient as a unique person with needs specific to his condition helps to improve the competence of nurses. It is important to mention that the nurse can provide good education to the patient when he has good theoretical knowledge about patient care.

*“... Patient education affects professional competence. If I don’t know something myself, I can’t teach it to someone else .... First, I have to know the side effects of the medicine myself, if I don’t know, I can’t ...” (Participant 12).*

### Attention to empathy in care

The nurses stated that one of the factors in providing patient-centered care is empathy with the patient. Empathy in care, in addition to leading to a better understanding of the patient’s condition, helps the nurse to have professional competence. In this regard, participant 1 said:

*“... In the department, where I work, the mother does not have enough time to see her child. Think, for example, if your child is there, how difficult it is. Then, there are many times when, for example, the child is very restless and they order him to sleep, but when you just hug him, he calms down .... A simple hug will make their tachycardia reduce ...”.*

### Honoring the patient by nurses

According to the participants, paying attention to and honoring patients is effective in providing patient-centered care. In this regard, ensuring the comfort of the patient and the patient’s companion shows that the nurse has not neglected the importance

of the patient. When the nurse has enough peace, she can convey this peace to the patients. Factors such as the large number of patients and the high workload of nurses can reduce the importance of patients. For example, participant 6 said:

*“... It depends on the condition of the patient. Some patients like to have the TV on. I find the TV control. I talk to them; if they have time to talk, I sit at their feet and keep the room calm. If they have any questions, I will try to answer ...”.*

## Discussion

This study was conducted to explain the needs, facilitators, and inhibitors of the professional competence of novice nurses. In the present study, one theme, two categories, four subcategories, and 24 sub-subcategories were obtained from the data analysis. “On the path to becoming a professional” as the theme of this study includes two categories “strengthening professional skills” and “committed adherence to the profession.” The first category includes the two subcategories of “technical skills development” and “using up-to-date knowledge in care” and the second category includes the subcategories of “strengthening professional ethical values” and “patient-centered care development.”

Today, by changing and evolving the delivery of services and health care, it is important to synchronize nursing education with these changes and pay attention to nursing as a practical profession. For this purpose, it is helpful to focus on the skills, knowledge, and attitudes of nurses for the quality and safe care of patients by qualified nurses.<sup>[26]</sup> As per Jabbari *et al.*,<sup>[27]</sup> insufficient training and skills was introduced as a nursing challenge. In a study by Pueyo-Garrigues *et al.*,<sup>[28]</sup> the level of knowledge, skills, and personal attitudes of nurses was reported to be poor-moderate. One of its factors is the lack of training and high workload. In this regard, it is necessary to develop clinical skills, especially in novice nurses.<sup>[26]</sup> Similarly, our study showed that strengthening professional skills has been raised as one of the main needs of professional competence of novice nurses. The development of technical skills of nurses is one of the factors which help to meet this need. For the confirmation of the results of the present study, it has been shown in many studies that technical skills include cases such as patient’s safety<sup>[29]</sup> and competence in medication administration.<sup>[30]</sup> Sanchez De Miguel *et al.*,<sup>[31]</sup> also believed that patient safety is related to improving the nurses’ competence.

The participants in our study stated that acquiring skills to work with HHS and strengthening skills in working with hospital equipment such as ventilators, syringe

pumps, and hemodialysis machines were effective in developing technical skills. In recent years, along with the advancement of technology, the use of medical equipment in health care has increased. Therefore, the skill of working with equipment is required, while the training of these skills has been neglected.<sup>[32]</sup> In addition, information technology is used in the health system to access clinical records, provide diagnostic and therapeutic services, and monitor the treatment process of patients. Therefore, it is necessary to train nurses to acquire the skills in working with information systems. Having computer literacy is necessary to acquire competence and provide quality care more cost effectively for nurses.<sup>[33]</sup>

As previous studies have shown, nursing knowledge, along with clinical skills, has been introduced as one of the factors affecting improving professional competence. In our study, it was found that using up-to-date knowledge in care is effective in strengthening professional skills and training competent nurses. The results of a study also showed the role of knowledge in increasing professional skills. Thus, a positive and significant correlation between knowledge, skills, individual social skills, and educational skills was reported. In addition, there was a correlation between knowledge, educational level, and individual attitudes of nurses.<sup>[28]</sup> In our study, it has been shown that to acquire knowledge, using theoretical knowledge in the clinical setting can improve professional competence.

Another study showed that combining nursing knowledge and skills, as two prerequisites for evidence-based performance, can be used to help patients make the best decisions for their health.<sup>[34]</sup> According to the results of the study was carried out by Mazurek Melnyk *et al.*,<sup>[35]</sup> there is a special need to provide the necessary knowledge and skills for nurses to achieve evidence-based practice. As the participants in this study have pointed out, in Iran, the application of theoretical knowledge in the setting, especially by increasing work experience and distance from the university, has not been considered. Therefore, it seems necessary for the officials to consider this issue. In another study, it was mentioned that evidence-based practice was not implemented as it should be in Saudi Arabia, while the attitude toward evidence-based practice is positive and has obtained a higher score than knowledge and its implementation.<sup>[36]</sup>

Committed adherence to the profession is one of the issues raised from the perspective of the participants in this study as one of the needs of professional competence of novice nurses. In this regard, strengthening the values of professional ethics is considered as one of the important factors in increasing professional commitment and developing competent nurses. A similar study

introduced moral characteristics such as responsibility and honesty as individual values, which are consistent with the results of the present study. According to Jormsri *et al.*,<sup>[37]</sup> the moral competence of nurses is a combination of three dimensions: moral perception (awareness of values), moral judgment (selecting a value among values), and moral behavior (using values in practice).

In another study, similar to the results of the present study, justice, conscience, honesty, and responsibility were reported as the moral values of nurses.<sup>[38]</sup> Data analysis of a study by Aliakbari *et al.*,<sup>[39]</sup> introduced professional ethics (with two subcategories of observing ethics and professional responsibility) and adherence to the law (with two subcategories of observing legal requirements and familiarity with legal requirements) as two subcategories related to professional competence.

Most of the participants in our study reported that professional communication between nurses and other members of the healthcare team can help improve professional competence. However, in Iran, this is not considered as it should be. Some of the reasons for this problem can be the lack of familiarity of the healthcare team members with the roles of nurses, the views toward the nursing profession, and the lack of proper communication skills of nurses or other colleagues. Each nurse plays an important role in teamwork. In fact, by putting their skills together, team members can manage a large workload and act for the benefit of team members and patients.<sup>[40]</sup> In addition, given the lack of communication skills and competence in novice nurses, strengthening the communication and interpersonal skills of nurses is required to reduce anxiety and increase their competence.<sup>[41]</sup> A study by Parnikh *et al.*,<sup>[42]</sup> showed a positive and significant relationship between professional communication and interest in work and professional commitment, which can guarantee the delivery of quality care and patient safety.

Another point raised by the participants as a need for professional competence is patient-centered care development. According to the nurses, this need can improve professional competence with committed adherence to the profession. Today, patient-centered care is one of the most important elements of care. The concept of patient-centered care is used when we focus on the patient rather than the disease.<sup>[43]</sup> Factors such as positive psychological capital and ego-resiliency of nurses are effective in strengthening patient-centered care and professional competence.<sup>[44]</sup> Our participants believed that paying attention and giving importance to the patient leads to the delivery of patient-centered care.

The results of a study on the experiences of emergency nurses regarding patient-centered care indicated that

patient-centered care was a field of nursing that could not be replaced by equipment. Where patient-centered care is provided, nursing is an art where the smallest details make a difference and symptoms and patients' feelings are perceived as they are. As a result, it will increase the quality of care and the satisfaction of nurses. However, the lack of patient-centered care makes nurses feel hopeless, guilty, and distant from patients.<sup>[45]</sup>

### Limitations

One of the main limitations of this study was the inclusion of nurses with experience of less than two years in the study; some of whom after the emergence of the Covid-19 pandemic in the last year of their studies, compared to the nurses of previous courses, had theoretical education and clinical setting limitations. This can affect the professional competence of these nurses. Due to the peak of the Covid-19 pandemic, it was not possible to conduct focus group interviews and the emergence of interactive data. Also, due to the infection of some novice nurses with Covid-19, they could not participate in the face-to-face interview, so it was conducted virtually.

Due to the heavy workload of novice nurses, some nurses could not participate in the interview. However, there was an attempt to conduct the interviews by explaining the objectives of the study and the importance of the topic and determining the time, place, and type of interview based on the participants' wishes. In this regard, to explain the professional competence needs of novice nurses in different contexts more comprehensively, we suggest that further studies should be conducted on other nursing communities. In this way, the professional competence needs will be documented, and the results will be compared more comprehensively.

### Conclusions

On the path to becoming a professional is one of the most basic needs of novice nurses; they pass the novice stage and enter the group of competent nurses. In this regard, this can be achieved by strengthening the professional skills of nurses and their commitment to the nursing profession. Strengthening the professional skills of nurses depends on strengthening technical skills by using up-to-date knowledge in care. In addition, by strengthening professional ethical values in nurses and developing patient-centered care, the nurses' professional commitment will be ensured.

The results of the present study are introduced as a reliable source for informing nurses and the nursing management system regarding the understanding of the needs of professional competence of novice nurses. Some of the needs of professional competence of novice nurses

have been neglected. Thus, the authorities can adopt strategies to meet the needs of professional competence of novice nurses, train competent nurses, and increase the quality of healthcare effectively.

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### Conflicts of interest

There are no conflicts of interest.

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