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Essential dimensions of professional competency examination in Iran from academic and clinical nurses' perspective: A mixed-method study

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Abstract:

BACKGROUND: Planning for the issuance of professional competency examination has been put on the agenda of professional policymakers, but the ways of evaluating and conducting examinations and its dimensions are the main challenges. The present study aimed to explain the essential dimensions of professional competency examination in Iran from academic and clinical nurses' perspective.

MATERIALS AND METHODS: The present mixed-method study was performed at three stages, systematic review, qualitative, and quantitative stages. At the first stage, 56 articles and texts were collected from PubMed, CINHAL, Ovid, and ProQuest databases, by using the keywords, namely professional competency examination and assessment. Base on the inclusion criteria and eligibility assessment of article, six articles and one text on regulation were selected. At the second stage, the results of the literature review were approved by 20 nursing experts. Direct content analysis was used for data analysis. The results were prepared in the form of a questionnaire. At the last stage, the questionnaire was given to 2209 clinical, academic, nurse managers, and nurses.

RESULTS: Based on findings of the review literature, essential dimensions of the professional competency examination included a central theme of the client's needs with four categories. At the second stage, the Professional Competency Examination dimensions were approved by experts. At the third stage, a comparison of findings indicated that clinical nurses emphasized more on cardiopulmonary resuscitation, client safety, and implementation of procedures, while academic nurses emphasized on the client's needs, client education, and clients' physiological integrity.

CONCLUSION: The client's need is the most important dimension in the professional competency examination. The nurses will be successful in providing care if they can identify the clients' needs and provide care plans based on client needs and priorities.

Keywords:

Client, nursing, patient safety, patient, professional competence, ethics

Introduction

Nurses are the front line of patient care and have the most important role in improving the quality of care provided.^[1,2] But factors such as technological advance,^[3,4] emerging diseases, globalization, and increasing migration pose challenges for them in providing care.^[4-6] For appropriate

caring, evaluating nurses' professional knowledge and skills^[2,4,6] and to ensure that their have ability to provide safe care to patients.^[4] it is necessary to have appropriate continuing education programs.^[4]

Hence, as the provision of safe care is the main purpose of the health system,^[7-9] to assess,

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evaluate, and validate the professional competence of the health system, workers are significantly important.^[7,8] To achieve safe care, it is important to provide professional personnel who are more knowledgeable, skilled, motivated, and ethically oriented.^[10,11] Therefore, it is necessary to confirm the physical, mental health, skills, and professional and moral competency of nurses who serve the clients. In nursing, the professional competency examination is significantly important and it is not a new issue^[12-14] and professional competency examination has been existed in different countries since years ago, for instance, professional competency regulations were adopted in the United States in 1903,^[3] in the United Kingdom and Ireland in 1919.^[3,15] The review of the nurses' professional competency has always been taken into consideration in Iran. In May 2016, the regulations on the nurses' professional competency examination were introduced by efforts of the deputy of nursing and approved by the Minister of Health and Medical Education.^[5]

Despite, the common goal of the professional competency examination is providing safe client care, maintaining and promoting the total health that need of the population in all countries,^[5] but the dimension of professional competency examination is not clear^[5,16] and the process of examining the professional nursing competency is under the influence of types of legislation, governmental laws, economic, and political and cultural conditions in countries,^[17-19] so it is not the same in different countries; each country has considered different criteria for examining the professional competency in nursing.^[20]

In the United States and Canada, English language proficiency is necessary beside the approval the professional competency because there are many immigrant nurses in these countries, and policymakers believe that proper communication is necessary to provide a proper quality of care.^[5] Therefore, planning, formulating, and implementing the professional competency examination regulations in all countries have posed challenges.^[5,21] The requirements for a professional competency licensure in Iran are physical and mental health, suitable background, and passing the national professional competency examination.^[5]

Protection of the clients and communities are the most important consequences of evaluating the nurses' professional competency. Inspect the Essential Dimensions of Professional Competency Examination could be useful to achieve this goal.^[5] The main requirement for evaluating of nursing professional competency is to investigate essential dimensions of the professional competency examination. Identify the clients' needs by applying nursing diagnosis is essential dimension of professional competency examination. So,

nursing professional competency examination must be performing in order to evaluate it.^[12-14]

Protection of the clients and communities are the most important consequences of evaluating the nurses' professional competency. Essential Dimensions of Professional Competency Examination could be useful to achieve this goal.^[5] However, the most important challenge in applying a professional competency examination is to identify its dimensions.^[5,16]

Academic nurses have educational perspective and clinical nurses have practical perspective. Hence, in this study, both groups of nurses were mentioned to investigate necessary dimensions of professional competency examination. Therefore, the present study aimed to identify the necessary dimensions of professional competency examination from the perspective of the academic, manager, and clinical nurses in Iran.

Materials and Methods

Study design and setting

The present study was conducted by mixed methods at three stages, systematic review, qualitative, and quantitative stages. That is shown in Figure 1.

At the first stage, the literature review was conducted with York University guidance.^[22] The relevant articles and texts were collected from PubMed, CINAHL, Ovid, and ProQuest databases, using the keywords, namely professional competency examination and assessment,

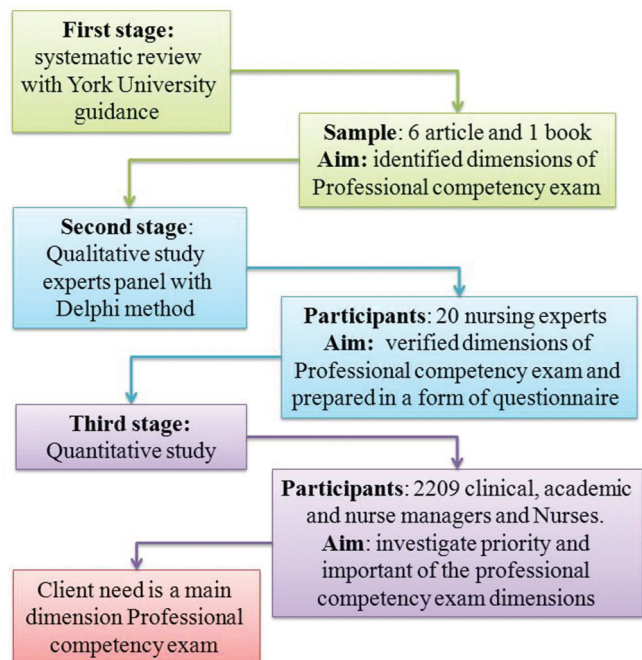


Figure 1: Research process

and 56 articles and a text on professional competency examination (NCLEX. RN) were obtained.

After removed duplicated articles, for articles screening, the letter to the editor as well as these articles presented in conferences and unrelated articles were removed. And then, articles were assessed base on inclusion criteria. The inclusion criteria were the relevance of the articles to the dimensions of the professional competency examination and the English and Persian language articles which was published before 2020. Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols 2015 checklist, The Strengthening the Reporting of Observational Studies in Epidemiology, and Statement and Standards for Reporting Diagnostic accuracy studies 2015 were used for eligibility assessment of the article. Base on the inclusion criteria and eligibility assessment of article, six articles and one text on regulation were selected. The process of articles' selection is shown in Figure 2.

Data were analyzed using direct content analysis. Data analyses were performed by two researchers simultaneously. Later on, data analysis separately was reviewed and evaluated by two other nursing professionals in order to increase the research accuracy.^[23]

Data collection tool and technique

At the second stage, the results were E-mailed to 20 nurses' specialists and faculty members of nursing. Later on, at the meeting with the same group, the data were discussed. Finally, the dimensions, categories, and subcategories were identified and presented in the form of a questionnaire. The questionnaire was E-mailed to experts, for confirm its face validity. Internal reliability was assessed and confirmed by the Cronbach's alpha method.^[24]

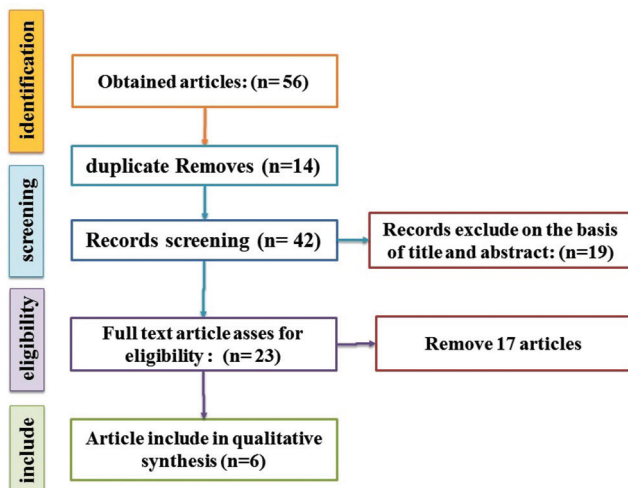


Figure 2: Selection of articles

Study participants and sampling

At the third stage, the questionnaire plus demographic questionnaire was sent to 2209 managers and clinical nurses. The inclusion criteria for participants: having a license in nursing, at least 2 years of clinical experience, and employment in educational and medical centers. Exclusion criteria were incomplete or distorted questionnaires. Finally, the priorities and important of the professional competency examination were identified.

Ethical consideration

This study was approved by the Ethics Committee Sciences (ethical code No: IR.SBMU.PHARMACY.REC.1399.108). To observe the ethical considerations, the research goals and procedures were elucidated to the participants, they were assured of information anonymity and confidentiality, and the informed written consent was obtained from each participant. They participated in the study voluntarily and could leave the study at any stage.

Results

Based on the results of the text, the article reviews necessary dimensions of the professional competency included a central theme as client's needs with four categories. The categories included:

1. An effective and safe care environment with two subcategories (care management, infection, and safety control)
2. Health maintenance and promotion category with two subcategories (evolutionary, transition, and health screening)
3. Psychological integrity category with one subcategory (mental health concepts)
4. Physiological integrity category with four subcategories (comfort, essential care, drug and injectable therapies, potential risk reduction, and physiological adaptation). That is shown in Table 1.

The nursing participants' mean age was 42.06 years and the highest age group was 41–50 (46.13%) and most of the participants were 31–50 years old (83.51%). Their average work experience was 17.40 years. The nursing managers' average year of experience was 8.31 years. Participant's job level is shown in Figure 3.

The findings indicated that clinical nurses focused more on cardiopulmonary resuscitation, followed by medical emergencies, client safety, infection control, blood transfusion, and pharmaceutical computing and implementation of procedures, while nurses on faculty member focused mostly on client needs, client education, and clients' total integrity.

Table 1: Analysis of dimensions of professional competency examination includes subcategories and percentages

Theme	Categories	Subcategories	Code	Percentage
Clients' needs	Effective and safe care environment	Care management	Case management, client right, interdisciplinary teamwork, management concepts	10
		Infection and immunity control	Accident prevention, error prevention, hazardous matters, aseptic surgery, standard precautions using the restraints	12
Maintaining and promoting health	Evolutionary and transition stages	Health screening	The aging process, care before, during, and after delivery, and baby care	12
		Health promotion	Health promotion/disease prevention, high-risk lifestyle selection behavior, self-care	
Psychological integrity	Mental health concepts		Abuse/neglect, dependencies, family dynamics, sorrow, end of life care, religious and spiritual effects on health, sensory/perceptual changes, stress management, support systems, therapeutic communication, therapeutic environment	10
Physiological integrity	Basic comfort and care		Auxiliary devices, excretion, mobility/immobility, nonpharmacological, methods of relieving pain and providing comfort and convenience of diet and hydration, personal hygiene, rest, and sleep	10
		Pharmacological and injectable therapies	Side effects/contraindications/side effects/drug interactions, blood and blood products, central vein access devices, dose calculation, expected actions/consequences, drug management, injectable/intravenous therapies, pharmaceutical pain management, complete venous nutrition	14
	Reduction of potential risk		Changes/disorders in vital symptoms, diagnostic tests, laboratory values, possibility of complications of diagnostic tests/treatments/procedures, complications of surgical procedures and health changes, exclusive review of systems, treatment procedures	12
	Physiological adaptation		Changes in the body systems, imbalance of fluids and electrolytes, hemodynamics, disease management, medical emergencies (with an emphasis on triage and cardiopulmonary resuscitation), unexpected responses to treatment	20

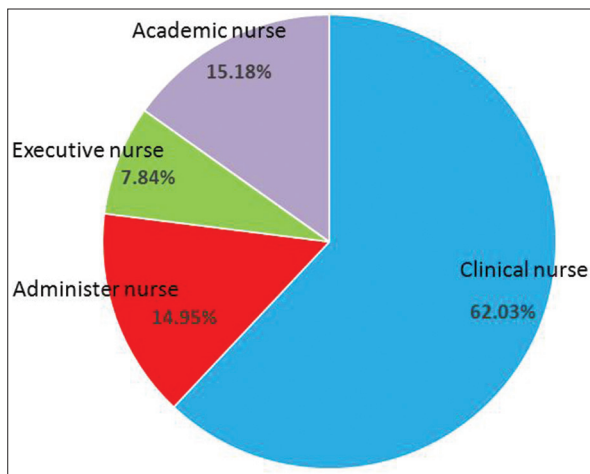


Figure 3: Participants' job level

Discussion

Due to technology advancement and changing the health needs of the communities,^[11,14,25] advancing nurses' roles and the continuous shortage of nursing staff have caused challenges such as the use of unskilled nurses to provide adequate care;^[11,14,26] hence, there is a need to assess the professional competency of nurses in order to educate prevention of possible harms and diseases, to provide effective, safe and respectful care for individuals and communities.^[7,14,27-30]

According to Dobson and Hess, it is essential to implement the ongoing client-centered nursing education courses in order to strengthen knowledge,

skills, and attitudes of nurses.^[31] In the present study, the client's need is the main purpose to provide effective professional competency examination.

Takase *et al.* also stated that nurses at clients' bedside should continuously maintain and improve their skills to be able to provide the best care for their clients. They found that feedback and response to the clinical setting could improve the skills of clinical nurses, and training was effective by this method.^[32] In this study, the researchers believed that the best care is provided when the nurses are able to identify the clients' needs based on nursing diagnosis.

Oskouei *et al.* and Terry *et al.* emphasized the assessment of professional competency and continuous education throughout professional life that led to the protection of community^[5,16] and Kleib and Nagle noted that the educational courses should be developed base on the staffs' needs.^[33] This study also emphasizes the use of the professional competency examination and short-term courses according to the training needs of clinical nurses are capable to provide better quality care to clients and communities.

In the present study, the most important priority was in assessing the professional competency of medical emergencies, client safety, infection control, blood transfusion, and pharmaceutical calculations. In fact, the priorities were along with protecting clients and community. Oskouei *et al.* and Kavanagh *et al.* found that the professional competency should be assessed

at the beginning of clinical duties and periodically to ensure staff training and their competency.^[5,34] They did not mention the dimensions of examination. Dimensions of evaluation and their priorities were identified in the present study. The researchers believe that the result of the competency examination clears the gaps in nursing care that needs more education for clinical nurses.

Yanhua and Watson mentioned responding to a client's emergency needs as the most important concept in assessing nurses' clinical skills.^[35] Therefore, the results of the present study indicated the same issue as well as the priority of emergency needs that were not mentioned in the above study.

Comparing the professional competency assessment in China and Australia, Wang declared that the assessment of professional competency in Australia was conducted to provide client-centered, collaborative, health-oriented care, staff management, research, and education.^[36] In the present study, the client's needs were the main dimension of professional competency evaluation. Furthermore, its dimensions, including the health improvement and client safety, were obtained in all aspects of health and were consistent with the results of Wang's study, while dimensions of health were not mentioned in Wang's study.

Mills stated that portfolios should be used to assess nurses' skills and competencies. They emphasized the nursing skills such as case reports, client care plans, discharge planning, and presentations to evaluate dimensions of nursing skills.^[37] Results of the present study assessed dimensions of professional's competencies. Attree *et al.* emphasized the need for client safety in nursing students' curricula.^[38] In the present study, the client safety was emphasized in terms of its priority by the clinical and academic nurses.

Mirlashari *et al.* founded that nursing competency trended toward definitions using a comprehensive and holistic perspective and behavior statements reflecting the skills, knowledge, attitudes, and judgment required for effective performance in the nursing care plan.^[11] Also, Lakanmaa *et al.* considered the nurses' knowledge, attitude and value, skill experience, and personality as prerequisites for professional competence. They emphasized that the nurses' personality is the prerequisite of professional competency too.^[39] They believed that personal experience and personality will affect the individual's competency and performance in different situations, especially in the intensive care units.^[39] Also, the present study emphasized the nurses' knowledge and ability to judge in identifying the clients' needs base on nursing diagnosis.

Limitation and recommendation

The literature review indicated not enough findings on dimensions of the professional competency examination. Based on the results of the present study, client need and client-centered care are considered as dimensions, categories, subcategories, and priorities for professional competency examinations, so researchers suggest that more studies should be done on different methods of assessing professional competence according to its main dimensions and categories.

Conclusion

The client's need is the most important dimension in the professional competency examination. Nurses will be successful in providing care when they can properly identify the clients' needs and provide a care plan based on nursing diagnosis. The clients' cardiopulmonary resuscitation and safety are the most important dimensions in assessing the professional competency with continuous education in terms of nurses' views. Ultimately, protecting and promoting the health of the clients and communities are the most important consequences of evaluating the nurses' professional competencies.

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Conflicts of interest

There are no conflicts of interest.

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