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Review

Expected Roles of PhD Graduated Nurses: A Scoping Review

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Abstract

The aim of this study was to investigate the expected roles of the Doctor of Philosophy graduated nurses and their challenges. This study was conducted as a scoping review based on Arksey and O'Malley's approach. After a search in valid databases such as Google Scholar, Information Sciences Institute, Science Direct, Ovid, PubMed, and Scientific Information Database between 2000 and 2019 and review the websites of some well-known universities and the contents of some of the global nursing websites such as the American Association of Colleges of Nursing, National League for Nursing (NLN), International Network for Doctoral Education in Nursing (IDEN), as well as reports such as Institute of Medicine. All data were collected, summarized, and then described narratively. There was much evidence that the Doctor of Philosophy programs had failed to prepare graduated nurses for the related roles and responsibilities. The expected roles of the Doctor of Philosophy graduated nurses in this study summarized in five domains of education, clinical practice, research, leadership and management, and policy-making along with worldwide challenges, especially those highlighted in Iran. It seems that besides clarifications of the expected roles of the Doctor of Philosophy graduated nurses, there should be more thought about the contents of the programs along with roles responsibilities, as well as the establishment of better communications between universities and workplaces.

Keywords: Challenges, expected roles, PhD in nursing, review study

Introduction

The Doctor of Philosophy (PhD) refers to the philosophy and scientific diligence in knowledge which is also regarded as the highest academic degree in all disciplines. The term "doctorate" is rooted in the Latin word "docere" which means teaching (Winter et al., 2000) and it is also characterized by an advanced level of education and research that is employed to create new knowledge (Ellis, 2005). The graduates of disciplines such as medicine labeled as "MD," pharmacy called "Pharm.D," veterinary named as "DVSc," and dentistry termed as "DT" are also mentioned as doctorate which is a degree equivalent to a bachelor's and master's in other sciences.

History showed that PhD education was established in Europe and Germany. Then, it was brought to the United States in the 1860s. Yale University was the first academic center to award a PhD degree in 1861. Then, Oxford University in the United Kingdom began to accept students in PhD programs in 1920 (Carpenter & Hudacek, 1996).

In general, the goal of a PhD program is to educate scholars and scientists to develop disciplines and to create new knowledge in which there is an emphasis on preparing students to assume expected roles after completion of the courses (Fiedler et al., 2015). The global competition for doctoral study is growing. Moreover, PhD graduates play an important role in the development of communities because of having specific skills in research methods and abilities to create, implement, and publish knowledge and innovation (Auriol, 2010).

The concept of PhD in nursing is not new. In the past, most nurses could also obtain their doctoral degrees in disciplines such as physiology, education, or social sciences. Doctorate of Education (EdD) was created between 1900 and 1940 and the first EdD in nursing was awarded in 1933 at Columbia University. In the 1950s, the University of Pittsburgh emphasized the importance of clinical research for the development of a body of knowledge and nursing profession in the PhD program. Then Boston University launched the Doctorate of Nursing Science (DNSc) (Robb, 2005). Later, different types of nursing doctorates were developed including Doctorate of Science in Nursing, Nursing Doctorate, Doctor of Philosophy in Nursing (PhD), and Doctor of Nursing Practice (DNP) (Meleis, 1988; Rosseter, 2017). The history of PhD degrees development in nursing in some countries across the world such as the United States (1933), the United Kingdom (1970), Sweden (1986), Australia (1987), South Korea (1988), Brazil (1990), Canada (1991), Venezuela (1998),

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and China (2003) is reflecting the historical record and the importance of developing PhD studies in nursing worldwide.

Historically, the first PhD program in nursing in Iran was held by Tabriz University of Medical Sciences in 1995. Then, Iran University of Medical Sciences, Tehran University of Medical Sciences, Shahid Beheshti University of Medical Sciences, and Isfahan University of Medical Sciences started accepting PhD students in nursing. Currently, a total number of 17 universities of medical sciences in Iran have permission to train PhD students in this domain.

In general, two models of PhD programs in nursing are known worldwide. In the research-based/oriented European model, students only focus on the implementation of research projects. This model is being used in European countries, North Africa, Egypt, Japan, Australia, and New Zealand. But in the North American model or the Pan-American model, students first take courses that are related to the subject of the dissertation and, after successfully passing the relevant exams; they concentrate on doing their dissertations. This model is being implemented in countries such as Brazil, Canada, the United States, Venezuela, South Korea, the Philippines, Taiwan, Thailand, and Iran (Ketefian et al., 2001).

In recent years, scientific research studies have put more stress on the professional development of nursing and they have particularly focused on the unique characteristics of nursing. Unlike other disciplines that start with general studies and then make progress toward specializations in the postgraduate programs, nursing is a profession that requires a general perspective in the PhD program (Rosseter, 2017). Nursing programs traditionally present courses in the fields of nursing history and philosophy and development of healthcare techniques as well as socio-economic, political, and ethical issues. Data management and research methods are also included as the most important areas in doctoral education in nursing (American Association of Colleges of Nursing [AACN], 2018).

Undoubtedly, the purpose of PhD programs in the development of nursing sciences is through research. In this respect, graduates are trained in research-based disciplines to contribute to a collection of unique knowledge in nursing and they are expected to accept leadership positions in their fields. As noted, the nursing process has been toward increasing PhD programs. Having doctoral degrees, as the most known and highest degree of science, has also clarified the value of PhD in nursing. Although the American Association of Colleges of Nursing (AACN) announced in 2004, there are mainly two types of nursing doctorate including PhD and DNP in Nursing; but most of the nursing leaders who recognize and accept PhD as a degree at the postgraduate level are strongly advocating the removal of other specialized programs such as DNP named as PhD in Nursing. Moreover, the AACN has differentiated PhD graduates as knowledge developers and DNP and DNSc ones as experts in using the new knowledge (AACN, 2002; Rosseter, 2017).

Growing knowledge and increasing complexity of health systems increase the need for advanced and qualified nursing. Therefore, nursing education and the training of Ph.D. students are very important (Patelarou et al., 2009). According to the Institute of Medicine (2011), "The Future of Nursing: Leading Change, Advancing Health," nurses could play a very important role in reforming and redesigning health systems that need improving the levels of knowledge and attitudes. Based on the recommendations in this report, there is an emphasis on increasing levels of nursing education, doubling the number of PhD graduates in nursing by 2020, and using the full extent of nurse education and training; therefore, nurses should be responsive to changing needs of health care systems. However; there is much more evidence that PhD programs in nursing have failed to prepare graduates for relevant roles and responsibilities (Booth et al., 2016). Generally, the relationship between doctoral education and expectations and roles is vague and there are sometimes no defined roles and responsibilities for nursing graduates in health systems (Agger et al., 2014; Bullin, 2018). Even if the roles and responsibilities have been defined, they have not been properly addressed in practice. Considering the increasing importance and the need for training nurses with PhD degrees as the source of changes in healthcare systems, as well as the controversies in preparation of graduates that exposed them to the confusion of their roles, there is the need to discuss the role of PhD graduate students. Therefore, this study aimed to investigate the expected role of PhD graduate nurses.

Research Questions

1. What are the roles and responsibilities of PhD graduate nurses?
2. Is there compatibility between the expected roles, curriculum, clinical environment, and organizations that provide job opportunities?
3. What are the worldwide PhD graduate nurses challenges; especially those highlighted in Iran?

Method

Study Design

This study was a scoping review based on Arksey and O'Malley approach (2005).

Study Process

The five-stage approach of Arksey and O'Malley (2005) includes identifying the research question, identifying relevant studies, study selection, charting the data, collating, summarizing, and reporting. A summary of the stages is shown in the below flowchart (Figure 1).

Search Process and Study Identification

Regarding the importance of the subject in the field of nursing and the lack of sufficient evidence in this domain, the main research question was about the expected roles of PhD graduated nurses and their challenges. Accordingly, various keywords such as doctorate in nursing OR PhD in nursing AND roles of PhD nurses AND scope of practice of PhD nurses were searched in valid databases such as Google Scholar, Information Sciences Institute, Ovid, PubMed, and Scientific Information Database in the related studies published between 2000 and 2019.

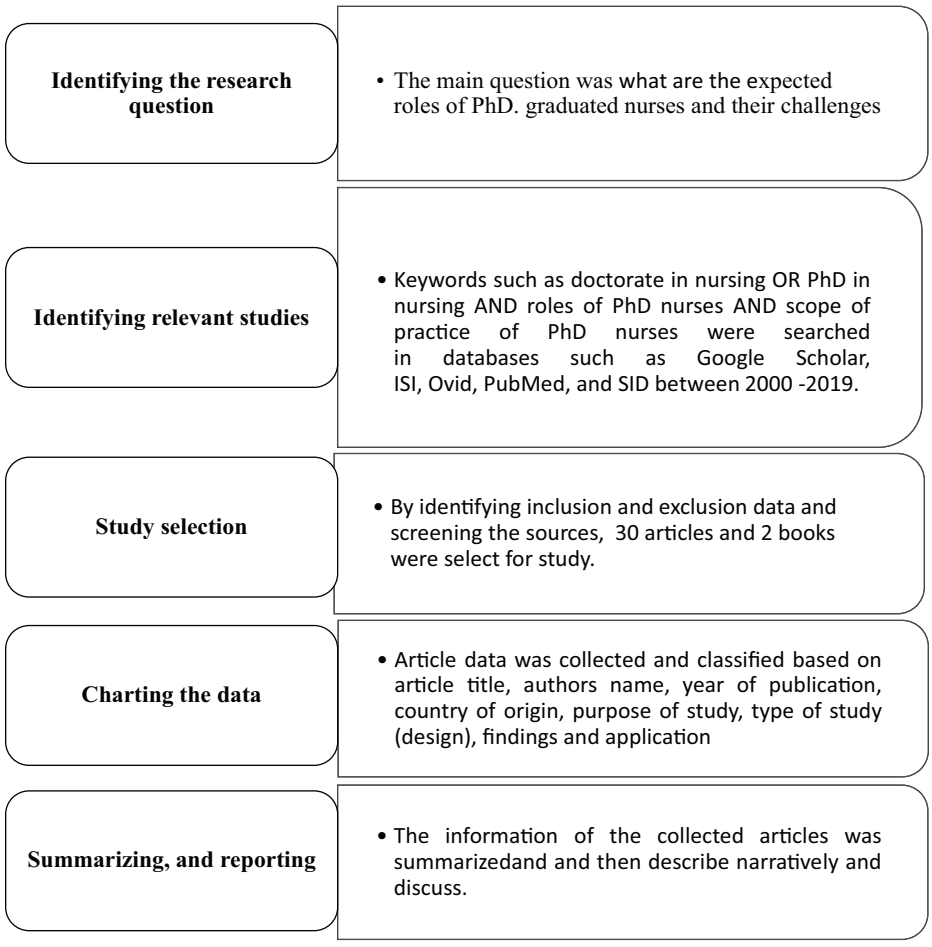

Figure 1.
Flowchart of the Process of Study Based on Arksey and O'Malley's Five-Stage Approach.

Eligibility of Resources
More than 414 articles were extracted. After removing duplicate items, examining the relevancy of titles, and reviewing the relevance of the subject, the validity of the source, and accessibility to the article, finally, the 23 articles were examined. Also, seven articles and two books were added after reference lists review. Since the purpose of a scoping review is a brief analysis around key concepts in the research subject and finding main sources and types of evidence without considering the quality of the studies (Tricco et al., 2016), the studies were selected only based on the proximity to the subject and scope of the investigation. Exclusion criteria included irrelevant, duplicate, and non-English articles. However, lectures, summaries, studies related to other disciplines, and studies just related to DNP were excluded from the final review. In addition, the websites of some well-known universities and the contents of some of the global nursing websites such as AACN, NLN, IDEN, as well as reports such as IOM were reviewed. All data were collected, summarized, and then described narratively and discussed.

Results

Goals of PhD in Nursing

By exploring PhD programs in nursing across the world, it becomes clear that the educational goals of training PhD graduates are different due to discrepancies in defined roles and responsibilities. The following cases are examples of such differences.

The University of Virginia in the United States which accepts students through two PhD and DNP programs aims to educate clinical professionals, nursing scholars, and researchers to develop nursing knowledge in the 21 century (The University of Virginia, 2018), while the John Hopkins University, in the United States, emphasized the empowerment of students in development and direction of research toward improving provision of healthcare services (The Johns Hopkins University School of Nursing, 2018). Accordingly, the general purpose of this university is to educate nursing scholars to develop and conduct research studies and finally progress the nursing discipline and deliver better healthcare services (The Johns Hopkins University School of Nursing, 2018)

The University of Alberta in Canada also expects the following roles from nursing graduates including nursing progress, knowledge mobilization, research development, and change in leadership (The University of Alberta, 2018). Also, the objective of nursing education in China, which has been working on nursing education since 2003, is to educate future nurses in the domains of research and management (Wang et al., 2016).

In general, the major objectives of establishing the nursing discipline in Iran include training specialized staff to provide the required workforce in the areas of research, education, technology, management, and services. Therefore, graduates can play roles in the domains of education, research, care, counseling, management, and prevention in communities. Accordingly, the positions considered for nurses can extend from hospitals to private centers, welfare and rehabilitation centers, research centers and institutes, planning centers related to nursing, growth centers, and knowledge-based companies as well as the community. However; the goals, visions, roles, and responsibilities of PhD graduated nurses in Iran have undergone changes in three periods since 1994. The focus of the first PhD programs in nursing was on improving the quality of education and research in order to achieve professional independence to supply the required human resource and also to promote nursing (The Iranian Curriculum of PhD in Nursing, 1995). In 2003, following the graduation of only ten students, the curriculum of PhD programs in nursing was revised and training of high-quality students in terms of research gained more weight (The Iranian Curriculum of PhD in Nursing, 2005). In the last period and following the approval of the curriculum for PhD programs in nursing which had been implemented since 2017, the main goal was training specialized nursing staff to provide the required human resources in the field of research, education, technology, management, and nursing services as well as participation in policy-making in the health system. By adding six non-core units to the curriculum, a clinical perspective was formed (The Iranian Curriculum of PhD in Nursing, 2017). Moreover, 24 professional responsibilities were considered for graduates. But there are not enough infrastructures to prepare nurses for gaining enough knowledge and skills during the years of education.

It seems that the shift in the locus of attention to the nursing PhD programs in Iran and some other countries from education to research and then clinical practice, as evident in curriculum changes, along with inappropriate consideration of specialized roles and responsibilities in PhD programs that distinguish graduates of PhD nursing from other nursing groups can be a reason for the role confusion among PhD graduates.

PhD in Nursing Careers

Based on the IOM (2011) reports as well as AACN (2018), the nursing profession requires much more nurses at the doctoral level to deal with the difficulty of the lack of nursing faculty members and scholars. The Doctor of Philosophy programs in nursing is held with the purpose of preparing graduates to accept careers in health, education, research, and clinical practice.

Most nurses with PhD degrees have a normal transition to achieve an academic career; however, there are other alternatives for nurses at this level. For example, PhD graduated nurses are often recruited by large consulting companies to work with other individuals in terms of designing solutions related to problems in providing healthcare services. Some other nurses are employed by big hospitals to manage different wards. Moreover, a group of such nurses is hired for the management of complicated healthcare systems at an executive level. In other places, these nurses could carry out research and also formulate and develop national and international healthcare policies. No need to say that PhD studies can meet individuals with a wide range of appropriate job opportunities.

Roles, Expectations, and Challenges

Within the nursing profession, graduate students are trained to develop new nursing knowledge and to prepare future nurses in the fields of research, education, clinical practice, leadership, and health-related policies. However, one of the major challenges of nursing education is the lack of clarity in the roles and responsibilities of graduated nurses, especially those involved in PhD programs (Bunkers, 2002).

In the study by Cheraghi et al. (2014), clinical nurses' perceptions and expectations about the roles and responsibilities of nursing doctorates were addressed. This study suggested that although nurses were good perceptions of PhD in nursing and believed that PhD nurses had been prepared to do research and to utilize theoretical knowledge in practice and they could also make use of their own specific conditions to improve current nursing status, PhD nurses, in reality, in the clinical setting cannot analyze issues related to healthcare systems and establish strategies to address nursing challenges.

Also, McKenna et al. (2014) highlighted the inadequate competency of PhD graduated nurses in confronting existing challenges in health systems. They acknowledged that although PhD graduates were expected to deal with nursing problems via knowledge and in-depth insights, in practice, such individuals had failed to play their roles in reforming the health system.

On the other hand, Sahebi et al. (2017) reviewing the challenges of the nursing doctoral curriculum in Iran conceded that with regard to the dynamism nature of needs of the health system and the development of nursing education, the nursing curriculum was faced with challenges and needed some changes. One of the most important findings of this study was that the nursing doctoral curriculum could not meet the needs of the community, health care system, the nursing profession, and even faculty members and PhD students. In the study by Zamanzadeh et al. (2014) investigating students' attitudes toward the quality of PhD programs in nursing, the lowest score was associated with "no consistency between the curriculum of PhD programs and the nursing profession as well as its missions and obligations."

Following the changes that occurred in the curriculum approved by the Ministry of Health and Medical Education in 2017, it seemed that no adaptation was expected in this domain via adding six non-core units whose method of implementation was not defined clearly. The confusion and challenges faced by PhD students in relation to the expected roles of passing these six units also increased. In a study by Feizalahzadeh and Hassani (2012), the participants showed that if nurses with PhD degrees were to be employed in clinical practice, necessary and sufficient infrastructure and organizational positions, as well as salaries, are required.

Expectations from PhD graduated nurses are miscellaneous and multifaceted. So, it is expected that individuals demonstrate their best performance in different domains and positions; while there is no proper and practical preparation in the clinical, care, decision-making, policy-making, and education fields.

There actually seems to be a contradiction in what universities are producing and what employers expect from the graduated nurses. The following is a summary of the expected roles of PhD graduated nurses in five domains of education, clinical practice, research, leadership and management, and policy-making along with worldwide challenges, especially those highlighted in Iran.

Education

Before the mid-19th century, the main focus of PhD programs was on teaching and higher education, aimed at training faculty members (Glanville & Houde, 2004). Nonetheless, with the expansion of PhD programs in nursing and admitting more students, teaching became a secondary activity and concentration was directed to research programs (AACN, 2016). One of the tasks of schools in this domain is to train experts, that is, future students and nurses, in terms of theoretical and clinical education (Oermann et al., 2016). It is also one of the professional responsibilities and roles of PhD graduated nurses in Iran. Thus, nursing education has great importance in the development of the nursing profession and preparation of future nurses to accept today's advanced roles and to take on responsibilities for providing safe and high-quality nursing services (Burton et al., 2009).

Nursing graduates are expected to be able to prepare for the quality training of future nurses, but this readiness is low or not at all (Bullin, 2018). Previous studies have shown that insufficient preparation among graduates to assume the role of lecturers and faculty members could reduce job satisfaction and have a negative impact on their performance in the educational role (Whitehead, 2015). In the study by Moghadam et al. (2017), it has been reported that PhD nursing students and graduates were not ready for nursing education. PhD graduated nurses further acknowledged that organizational expectations were much beyond their abilities, clinical competencies were low, and uncertainties and obligations could lead to identity threats in PhD students. Also, McNelis et al. (2019) showed that there is a vague process for preparing graduates for teaching in both PhD and DNP curricula. so, should prepare graduates for faculty roles by including coursework on teaching.

Currently, the presence of Iranian PhD graduated nurses in clinical practice is defined as lecturers in undergraduate and postgraduate courses in clinical settings (Cheraghi, et al., 2014). But based on the contents of the PhD programs, students are not completely prepared for clinical education. So, assuming the role of clinical instructors by PhD graduated nurses is neither acceptable nor cost-effective. Perhaps, teaching-specialized clinical education can be assigned to experts of the related field and the educational role of nursing doctorates can be limited to teaching how to acquire knowledge and research and how to enhance the body of nursing knowledge. It has been highlighted in most PhD programs worldwide, and PhD nursing students are prepared in that domain.

Clinical Practice

As stated, the nursing discipline is inherently clinical and one of the goals to train future nurses is helping in terms of provision of safe and high-quality services and consequently improvement of community health (Edwards et al., 2018). By assessing the roles for PhD graduates in clinical practice, it can be realized that the expected clinical role is promoting health in communities at higher executive and managerial levels, and no direct clinical role for such graduates in the care domain has been taken into consideration. In contrast, in Iran, planning, implementation, and evaluation of nursing services, working with healthcare teams, as well as patient follow-up after discharge, have been considered as responsibilities of PhD graduated nurses, while the defined positions for playing these roles have been not considered (The Iranian Curriculum of PhD in Nursing, 2017). Additionally, the lack of well-defined and purposeful program have faced students with more confusion. There is no doubt about the role that nurses can play in clinical practice, but if nurses with PhD degrees have the same responsibilities assumed by other nursing groups, what is the need to spend money, time, and manpower to train nursing doctorates.

Certainly, DNP has a different definition of PhD. Accordingly, there are different programs, goals, missions, and job positions (Oermann et al., 2016). The launch of the DNP program alongside PhD in nursing as a separate discipline considering educational infrastructure, manpower, working environment, community acceptance, and ... can be debated; however, the problem is to what extent the integration of these two programs will be practical.

Research and Investigation

The goal of the PhD programs is to prepare nursing students to produce new knowledge, develop the profession, and improve the quality of healthcare and health policies that are possible in the light of research studies. Therefore, one of the expected roles of PhD students in nursing is the ability to carry out applied research (Henly et al., 2015). Now, in the PhD Programs in Nursing in Iran (2017), students are required to fulfill a final research dissertation. In fact, one of the prominent roles of PhD graduated nurses is setting up and conducting proper and high-quality research. Thus, PhD students can identify concepts and structures of their interest, study their relationships, develop predicted models, and finally test them. The result can be the production of new knowledge for the nursing profession. However, AACN (2013) and Quality Assurance Agency for Higher Education (The Quality Assurance Agency for Higher Education [QAAHE], 2011) in the United Kingdom have expressed concerns about the quality of PhD theses.

It seems that attention to the quantity of the dissertations, limited research areas, and lack of interest in fundamental subjects, along with the prolongation of the research period, can all reduce the quality of research in PhD programs in nursing.

Leadership and Policy-Making

Although the tasks of governments or nursing leaders appointed to state affairs are policy-making, the presence of nurses in policy-making can improve nursing performance and consequently increase the quality of care services (Sullivan & Garland, 2010).

More than any other efforts up to the present, the IOM report (2011) has encouraged nurses to make changes in policies. According to this report, nurses have been called on to enhance their leadership capacities in order to design, implement, and support health policies that affect community health.

In recent years, Iranian nurses have tried to increase their participation in policy-making in nursing affairs although the status of

nurses in the domain of policy-making is not still clear enough (Ministry of Health Policy Making Council, 2014).

It is also obvious that PhD graduated nurses have the most important role in shaping leadership. In the curriculum (The Iranian Curriculum of PhD in Nursing, 2017), there are at least eight to ten leadership responsibilities that have been listed for PhD graduated nurses. It is also believed that the endpoint of the nursing profession is a leadership position to provide nursing services or train nurses. Accordingly, the PhD degree puts more emphasis on the leadership position of nurses, particularly in clinical practice. Moreover, it is claimed that nursing managers should benefit from the cooperation of PhD nurses in decision-making processes (Brar et al., 2010).

In regard to the preparation of PhD graduated nurses to assume leadership and policy-making roles, there are still ambiguities. Recently, two units of policy-making have been included in the nursing syllabus, but they have not been enough and also failed to prepare nurses for such situations. Therefore, it seems necessary to change the goals and the plans of PhD programs in nursing in order to prepare nurses to take on leadership and policy-making roles in the future.

On the other hand, due to the lack of a precise definition for organizational positions in leadership and policy-making groups in the Ministry of Health or at hospitals, graduates have no idea of employment in such organizations. Moreover, the terms "cooperation" or "participation" have been used in the responsibilities listed in the curriculum and independent roles have not been considered for PhD graduated nurses.

Study Limitations

One of the limitations of this study was the difficulty of fully accessing up-to-date and reliable sources. However, the best and most reliable sources were selected and retrieved according to the situation and needs.

Conclusion and Recommendations

The Doctor of Philosophy graduated nurses are expected to play the roles of agents for the development of the body of knowledge and nursing profession, as well as for educators, researchers, leaders, policy-makers, and professional consultants. Nevertheless, one of the major challenges facing nursing education is ambiguity in defining the roles of nursing graduates particularly those with PhD degrees (Bunkers, 2001). The definition of nursing roles can be challenging because studies in many countries have indicated disruptions in roles as well as overlaps (Chiarella & McInnes, 2010)

There is much evidence that PhD programs in nursing do not prepare graduates for their roles and responsibilities (Booth et al., 2016). In general, the relationships between doctoral education, expectations, and career roles for PhD graduated nurses have not been well defined (Agger et al., 2014; Bullin, 2018). Therefore, for possessing graduates with multiple abilities and multiple tasks, there is a need for the enrichment of the curriculum, defining clear roles, and proper preparation to achieve these roles (Adib-Hajbaghery & Hosieni, 2018).

It seems that PhD programs lasting for 4–5 years have failed to create the competency required to provide these complex, broad, and sometimes cooperating roles with other medical and nursing staff. On the other hand, the working environment is not ready to accept these graduates.

As a whole, all the expected roles of PhD graduated nurses need further clarifications and there is a need to think about the consistency between curriculums and roles, as well as the establishment of better relationships between academic settings and educational programs and organizations providing job opportunities.

Educational planning to achieve the competency to accept the roles needed for the market in order to meet the needs of communities and the nursing profession is worthwhile because the type of investments in an educational system will be equal to its outputs. Therefore, the type of perspectives to educational programs can direct human resource policy. Therefore, the results of this study, while reporting the situation in Iran, should be considered as a basis for expanding awareness of the challenges in this field, and the authorities should find a solution in the field with proper planning.

This article provides an overview of the expected role of nursing PhD graduates around the world with a special focus on nursing PhD graduates in Iran and discusses its challenges. Obviously, because of cultural differences and the educational and care structure of each country, roles and expectations will be different. Therefore, it is suggested that this issue be discussed in several countries and a solution be found to its challenges.

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