Nurses' Experiences of Practical Challenges Associated with Nurses' Prescription: A Qualitative Study

Abstract

Background: Because nurse prescription has numerous benefits for the health systems, in many countries around the world, nurses are given the right to prescribe medication. In Iran, the role of nurses in prescription drugs is not well understood, and nurses face various challenges in this regard. Materials and Methods: A qualitative content analysis methodology based on the Graneheim and Lundman model was used. Thirteen nurses working in medical wards of hospitals affiliated with the Tehran University of Medical Science were selected to participate in this study by purposeful sampling. Participants were interviewed via telephone using a semi-structured tool. After thirteen interviews, data saturation was reached. Data collection was undertaken between April 2020 and April 2021. Results: The results of this study are summarized in one theme, four categories, and ten subcategories. The theme extracted from the data analysis was "the practical challenges of nurse prescription," which included four main categories: structure challenges, personnel-related barriers, interprofessional separation, and society's attitudes. Conclusions: The results of this study explain the barriers and practical challenges of nurse prescription in Iran. Identifying these challenges and barriers provides the necessary evidence for policymakers to remove and adjust these challenges and barriers. Moreover, the elimination of identified challenges will help nurses better perform their new roles and develop the nursing scope and profession.

Keywords: *Iran, nurses, prescription, qualitative study*

Introduction

Today, due to many changes in the health needs of society, the nursing profession has become more professionalized to respond to these changes.^[1,2] Currently, the provision of health care by nurses at the international level has undergone significant changes for a variety of reasons, including economic conditions, lack of access to appropriate medical services in rural and growing areas, and increasing expertise among different medical professions.^[3] One of these changes is that healthcare organizations in leading countries have licensed nurses as health or treatment team members to better comply with these conditions. Prescription medication is a historical movement in nursing that can have numerous positive consequences for health care, including nursing.^[4] Nurse prescription has begun in many countries and is rapidly evolving and expanding. It is also a new practice for nurses.[5-7]

Nurse prescription has countless benefits, such as increased continuity of patient

For reprints contact: WKHLRPMedknow_reprints@wolterskluwer.com

care, better access to medicine for patients, especially in deprived areas, better efficiency in drug delivery to clients, reduced waiting time for patients, and reduced financial burden of healthcare systems.[8-10] According to the available evidence, it also improves nurses' caring role and increases patient satisfaction.^[11,12] That is why, today, many healthcare systems in different countries have given nurses the right to prescribe medication to better meet the health needs of clients. Granting the right of drug prescription to nurses, to the mentioned benefits, has caused a significant leap in professional development and nursing independence.^[13,14] In Canada, today, for instance, the government is making an effort to increase access to primary care by strengthening the healthcare system and reducing the financial burden and costs. One approach taken by policymakers is to increase the role of specialist nurses, those with a postgraduate degree in nursing who can order and interpret diagnostic tests, diagnose patients, and prescribe medication for them.^[7]

How to cite this article: Jodaki K, Abbasi M, Nayeri ND. Nurses' experiences of practical challenges associated with nurses' prescription: A qualitative study. Iran J Nurs Midwifery Res 2024;29:105-12.

Submitted: 09-Oct-2022. Revised: 30-Sep-2023. Accepted: 30-Sep-2023. Published: 09-Jan-2024.

Kurosh Jodaki¹, Mohammad Abbasi², Nahid Dehghan Nayeri³

¹Assistant Professor of Nursing, Department of Medical Surgical Nursing, School of Nursing and Midwifery, Shohadaye Haft-e Tir Hospital, Iran University of Medical Sciences, Tehran, Iran, ²Nursing Care Research Center, Department of Medical Surgical Nursing, School of Nursing and Midwifery, Iran University of Medical Sciences, Tehran, Iran, ³Nursing and Midwifery Care Research Centre, School of Nursing and Midwifery, Tehran University of Medical Sciences, Tehran, Iran

Address for correspondence: Prof. Nahid Dehghan Nayeri, Nosrat St. Tohid Sq. Tehran - 141973317, Iran. E-mail: nahid.nayeri@gmail. com



© 2024 Iranian Journal of Nursing and Midwifery Research | Published by Wolters Kluwer - Medknow

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

In Iran, medication is prescribed by general practitioners and specialized and subspecialty physicians. General practitioners often have less experience and skills than experienced and specialized nurses, and clients' access to specialized and subspecialty physicians is often costly and impossible. However, given the above points, in the healthcare systems of developing countries, including Iran, nurse prescription can control treatment costs, reduce the growing financial burden of second-level prevention, and increase client satisfaction.^[4,15] Unfortunately, in Iran, no attempt has been made to authorize professional nurses to prescribe drugs despite the shortcomings, such as increased costs, increased access time to treatment, and reduced client satisfaction due to independent physician prescription. Moreover, projects such as advanced practitioner nurses or nurse practitioners are not followed by Iranian health managers. In many countries, by creating the project of the Advanced Practice Nurse (APN), they have been better able to respond to society's needs and create a balance between supply and demand in the healthcare system.^[9,16] Implementation of nurse prescription in any country, including Iran, requires expert, evidence-based, and accurate practice, and in the first step, the challenges of and obstacles to the nurse prescription in the health or medical context of Iran must be identified. However, few studies in Iran have been conducted on nurse prescription, and the health context of Iran has not been well studied for implementing nurse prescription and identifying its challenges and barriers. Therefore, this study was conducted with the general purpose of explaining the challenges of nurse prescription in Iran based on the nurses' experiences.

Materials and Methods

A qualitative content analysis methodology was used to answer the research question. This study was conducted between January and September 2021. According to its philosophical foundations, this research approach provides new insight into phenomena and experiences. Therefore, the qualitative research method provides an in-depth understanding of nurses' experiences regarding the challenges of nurse prescription in Iran.

As Tehran University of Medical Science (TUMS) is the largest university of medical sciences in Iran and most changes in health policies are usually initiated at this university, the research team selected the hospitals affiliated with TUMS as the research environment. Because the purpose of this study was to explain the challenges of nurse prescription, the research population in this study consisted of all nurses working in hospital wards affiliated with TUMS. Nurses who met the inclusion criteria were invited to participate in this study. Inclusion criteria included having a bachelor's degree in nursing or higher, being employed in the medical ward, and being willing to participate in the study. After obtaining ethical licenses, the researcher selected the participants by purposeful sampling method and continued sampling until the data were saturated. After identifying the participant, the researcher introduced himself to them and explained the objectives and method of the study. The interview date and time were agreed upon by those who agreed to participate in the study.

Data were collected and analyzed simultaneously between January and September 2021 for 9 months. Data were collected through semi-structured interviews. Due to the new coronavirus pandemic, participants were interviewed via telephone. Their voices were recorded during the interview with their consent. The interview began with questions about nurses' experience of nurse prescription, such as Have you ever had any experience of nurse prescription? Have you taken any action in this regard? If not, why not? If you took action, what challenges did you face? Afterward, to clarify the desired concepts, supplementary and follow-up questions, such as "What do you mean by that?", were asked of participants using the information provided. A total of 13 interviews were conducted with 13 participants, and each interview lasted between 30 and 60 minutes. After 13 interviews, the researcher achieved theoretical saturation about the concept under study.

Data analysis was performed simultaneously with the data collection based on the proposed model of Graneheim and Lundman. This model for qualitative data analysis consists of five steps: In the first step, the recorded interviews are transcribed immediately after each interview. In the second step, each interview text is read several times to determine the meaning units. In the third step, a code is designated for each dense and abstract meaning unit. The codes are then placed in their related subcategories. In the fourth step, the categories are derived from the subcategories based on conceptual and semantic similarities. In the last step, the content of the data is explained. Data analysis in this study was performed using MAXQDA10 software.

Four criteria of transferability, dependability, credibility, and conformability were used in this study to increase the data trustworthiness. These criteria have been proposed by Lincoln and Guba to increase the reliability of the qualitative data.^[17] The dependability of the data was achieved by the member check, peer check, and the researcher's long-term involvement with the study field and data. To perform the member check, a summary of the results was selected and provided to nurses to ensure that the researcher reflected the participants' experiences. For peer check, a qualitative researcher from TUMS reviewed and approved the coding process and extracted categories. Transferability was achieved by providing a complete and rich description of the data collection and analysis process. This process helps readers match the study results with their context and use them.

Ethical considerations

This study was approved by the Ethics Committee of TUMS with code: IR.TUMS.FNM.REC.1399.143. At

the beginning of each interview, the study objectives and method were explained to the participants, and their consent for participating in the study and recording their voices was obtained. They were also assured of the anonymity and confidentiality of their personal information and recorded audio, and the fact that participation in the study was voluntary, and they could leave the study at any time without any consequences.

Results

The results of this study have been obtained from 13 interviews with nurses working in the medical wards of hospitals affiliated with TUMS. The nurses were requested to talk about the challenges of nurse prescription. The mean age of participants was 38.4 years. Table 1 shows the participants' characteristics. Results of this study showed that the executive challenges of nurse prescription could be categorized into four main categories: structure challenges, barriers related to professional staff, interprofessional separation, and society's attitude [Table 2].

Theme: Practical challenges of nurse prescribing

Despite the advantages of nurse prescription for the healthcare system, the rights of nurses to prescribe drugs

Table 1: Characteristics of the participants		
equency (%)		
51 years (38.4)		
7 (54)		
6 (46)		
8 (61)		
4 (31)		
1 (8)		
1 (8)		
3 (23)		
5 (38)		
4 (31)		

in Iran are not well recognized. Based on the nurses' experiences, the factors preventing nurses from prescription drugs in practice included the structure challenges, barriers related to professional staff, interprofessional separation, and society's attitude.

Category 1: Structure challenges

Prescription drugs by nurses in Iran's healthcare system structure is highly challenging. The main factor that prevents nurses from prescription medication is legal issues. There is no clear law on nurse prescription in Iran. Other factors include the weakness of nurses' training programs, lack of support for nurse prescription, and the negative organizational culture and atmosphere.

1-1 legal issues

The nurses initially saw the legal issues as a barrier to nurse prescription. They repeatedly stated in their statements that under the Iranian health law, their rights to prescribe medication were not well-defined. Nurses stated that although they had the necessary knowledge and experience to prescribe medication in certain situations, they did not prescribe drugs due to legal restrictions.

Participant No. 4, a 34-year-old registered male nurse, stated, "If I have lots of knowledge, but I do not have legal permission to use it, what is the point? That is the case now for some nurses who are very knowledgeable but do not have legal permission to prescribe drugs."

Legal restrictions and lack of responsibility in prescription medication lead to the fear of consequences following nurse prescription, which prevents nurses from prescription medication in many situations. "I do not do what is not my responsibility because it has consequences, and the drugs I give may cause complications. For instance, if I prescribe a drug to a patient and he/she develops a complication, no one will support me. I will face a legal problem and be sued" (Participant No. 10, a 38-year-old male nurse with a master's degree in nursing).

Legal restrictions on nurse prescription are potentially dangerous for nurses and can have negative consequences for them. In this regard, participant No. 11, a 26-year-old

Table 2: Practical challenges associated with nurse prescription			
Theme	Category	Subcategory	
Practical	Structure challenges	Legal issues	
challenges		Weakness of nurses' training programs	
of nurse		Lack of support for the nurse prescription	
prescription		Negative organizational culture and atmosphere	
	Personnel-related barriers	Physician-related barriers	
		Nurse-related barriers	
	Interprofessional separation	Poor nurse-physician communication	
		Nurse or physician distrust	
	Society's attitude	Positive attitude toward the physician prescription	
	-	Negative attitude toward the nurse prescription	

female registered nurse, stated, ". Our goal was to get the patient out of shock. The patient had been bleeding for several hours, and we did not have normal saline but had plenty of half saline. In fact, there was a national deficiency for it. Unfortunately, because of the order that the resident gave for saline, the patient's nurse got involved in forensic medicine and was found guilty. No one noticed that saline is not very different from half saline in normal shock, but it happened, and legally, the nurse did not have the power to change the saline serum to half saline."

1-2 Weakness of nurses' training programs

Based on nurses' experiences, nurses' training curriculum was not diagnosis and prescription oriented, and the educational content of the nursing curriculum was often very weak in this regard. There is a lack of training on nurse prescription in all nurses' training courses, including bachelor's, master's, and doctoral degrees. Nurses' weaknesses in diagnosis and drug prescription are among the consequences of excluding drug prescription from their educational structure, as one of the tasks nurses can perform for the patient. Regarding the weakness of nurses' training programs, one of the nurses stated, "I have never seen anyone teach us about prescribing medicine, neither in the bachelor's nor master's degree in nursing. These programs are all about nursing diagnosis and care, but they don't cover drug prescription." (Participant No. 10, a 38-year-old male nurse with a master's degree in nursing)

In this regard, another participant stated, "In our country, the diagnosis and treatment is the physician's responsibility, while in other countries, the nurse may also prescribe drugs. They are taught about drug prescription, but in our school, they do not teach anything about prescribing medication. In our country, nursing education focuses solely on nursing care." (Participant No. 5, a 38-year-old woman with Ph.D. in nursing)

1-3 Lack of support for nurse prescription

Despite legal restrictions and poor training programs, nurses can prescribe medication in some situations, especially emergencies. Nurses do not receive any support or encouragement from managers, including physicians and nurses, for prescription drugs. In some cases, it may even be troublesome for nurses. The consequence of such action is that the nurse will not prescribe drugs in similar situations in the future. "I had an argument with the head nurse because I had requested a lab test without a physician's order for a patient who had surgery the following day. She punished me for what I had done. Requesting a lab test without a physician's order helped the patient and prevented the cancellation of her surgery. But I will not do it next time." (Participant No. 11, a 26-year-old female registered nurse).

According to nurses' experiences, not only senior- and middle-level health managers do not support nurse prescription, but also basic-level managers, including head nurses and supervisors, provide no support for nurse prescription due to legal issues. Participant No. 8, a 48-year-old male registered nurse, stated, "When a head nurse or a nursing manager knows my competencies, they should support me in prescribing medication. For example, once I did something for a patient, and when the physician realized it, he complained to the head nurse and told her that her nurse had interfered in their work. The head nurse and supervisor also said that they would give notice. Well, they could have told the physician that the reason was that he came late to visit his patient."

1-4 Negative organizational culture and atmosphere

The Iranian healthcare structure is physician-dominated, which has affected hospitals' organizational culture and atmosphere. Unfortunately, due to the organizational culture and atmosphere in Iranian hospitals, nurses' abilities in prescription medicine are not taken into account. In general, in medical centers in Iran, attitudes and beliefs toward the nurse's ability to prescribe medication are negative. In this field, participant No. 2, a 32-year-old female registered nurse, stated, "I know that blood culture should be taken twice, and Apotel ampoule must be administered for a patient with a fever of 40 degrees. But I have to wait for the physician to come and tell me to do the same thing. If I do this without the physician the following day because no one accepts my prescription."

Another participant said, "I have often commented or consulted with the physician about prescribing medication for patients, but unfortunately, other colleagues and even other nurses look at it negatively and sometimes even make fun of me." (Participant No. 4, a 34-year-old male registered nurse)

Category 2: Personnel-related barriers

Personnel-related barriers refer to challenges related to healthcare providers, including physicians and nurses. In this category, many factors, such as physician-dominated culture, the conflict of interests between nurses and physicians and nursing staff, lack of knowledge and experience, and low self-esteem, prevent nurses from prescription drugs practically.

2-1 Physician-related barriers

After the legal issues in nurse prescription, physician-related barriers had the highest citation in the participants' statements. Nurses referred to the physician-dominated culture, the conflict of interests between nurses and physicians, lack of support for the nurse's prescription from physicians, and the physician's inappropriate behavior toward nurses as factors preventing nurse prescription. Based on the nurses' experiences, medicine prescription is exclusively performed by physicians, and there are conflicts of interest in this field. Moreover, it is impossible for a nurse to prescribe medicine due to the medical system regulation. In this regard, a participant with a master's degree in nursing stated, "*Physicians do not allow us* to prescribe medicine. They are more powerful. What difference do I have with a physician if I have a right to prescribe drugs?" (Participant No. 3).

In this structure, sometimes sparks are created due to the nurse's prescription, especially in emergencies when the physician is absent. This often has negative consequences for the nurse and is associated with the physician's inappropriate behavior. These negative consequences are exerted by managers who are often physicians. "*It has happened many times that physicians have accused me of prescribing*. In one case, the physician told me that nursing staff needed to know their scope and would not enter physicians' work field." (Participant No. 8, a 48-year-old male registered nurse).

2-2 Nurse-related barriers

According to the results, there are weaknesses in nurses and the nursing community that prevent suitable and appropriate prescription by nurses. These barriers include the lack of knowledge, lack of experience, low self-esteem, and lack of motivation. Nurses referred to numerous situations where they lacked the necessary knowledge and experience to prescribe medication. The following is the experience of one of the nurses concerning nurses' poor knowledge of drug prescription. "Sometimes the patient's condition is so complicated that I do not understand. I may prescribe medication for the patient, which may be wrong. I do not prescribe medicine wherever I feel wrong or have doubts." (Participant No. 5, a 38-year-old woman with Ph.D. in nursing).

Moreover, in cases where the nurses had the necessary knowledge and experience to prescribe medication, a lack of self-confidence or motivation prevented them from prescription drugs. Lack of self-confidence results from inadequate drug prescription training in nursing education, and lack of motivation is due to a lack of benefits for nurses. Participant No. 9, a 51-year-old man, stated, "Several times I could have properly prescribed a drug for the patient, but I did not do so due to reasons, such as lack of motivation. Why would I do that? It is the doctor's duty and has no benefits for me."

Category 3: Interprofessional separation

Interprofessional separation refers to the gap between medical and nursing professions and the lack of collaboration between these professions to help nurse prescription. In this category, the poor communication between the nurse and physician and nurse–physician distrust was among the practical challenges for nurse prescription.

3-1 Poor nurse-physician communication

Poor communication between physicians and nurses is

one of the challenges of nurse prescription. Nurses considered the lack of interaction between physicians and nurses, one of the factors hindering nurse prescription. They also acknowledged that not only was there no cooperation between professionals to facilitate nurse prescription but also that the relationship between physicians and nurses was so weak that, in most cases, it was a basis for distrust between them and prevented nurse prescription. "Most physicians do not understand the concept of inter-profession and Interprofessional collaboration. It is also true for some nurses, as they do not communicate well with the physician until the physician recognizes their ability. It prevents them from prescribing drugs." (Participant No. 5, a 38-year-old woman with Ph.D. in nursing)

Another participant stated, "In my professional relationship with the physician, I have to show my professional ability and gain the doctor's trust. On the other hand, the physician should have a good relationship with the nurses and at least trust the nurses who are good at their practice." (Participant No. 3, a nurse with a master's degree in nursing)

3-2 Nurse-physician distrust

Fundamental mistrust between medical and nursing teams, rooted in a weak relationship between physicians and nurses, is another obstacle to nurse prescription. It is a two-way distrust. In other words, in some cases, it is the physician's distrust of the nurse, and in other cases, it is the nurse's distrust of the physician that prevents the nurse from prescription medication. The following is an excerpt from an interview with one of the participants, which indicates the nurse's distrust of the physician. "I have witnessed that the physician does not even trust the nurse to follow his orders. It was an emergency, and I did not want to lose the golden time; I was trying to get a phone order from the physician, but he did not trust me and said he should see the patient." (Participant No. 4, a registered nurse).

Category 4: Society's attitude

In this category, society's attitude toward physician prescription and nurse prescription is expressed. Unfortunately, Iranian society prefers physicians' prescription much more than nurse prescription. Iranians tend to consult physicians for medical treatment and advice more than nurses.

4-1 Positive attitude toward the physician prescription

Society's positive attitude toward the medical profession and physicians has not been created overnight. Based on the nurses' experiences, the client, in particular, and the community, in general, value physicians more than other healthcare professionals and listen to them better, especially in drug prescription. Participant No. 12, a 41-year-old man with a master's degree in nursing, admitted it: *"Patients* trust physicians more because they believe whatever they say is correct. In many situations, especially at the time of discharge, I thought I would devalue myself if I said something to the patient about medication because patients always seek a physician for consultation."

Another participant stated, "*The truth is, if I tell a patient to take certain medication when you go home, he may not listen to me, but if a physician tells him the same sentence, he will listen.*" (Participant No. 7, a 35-year-old female registered nurse)

4-2 Negative attitude toward the nurse prescription

According to the participants' experience, Iranian society lacks a good attitude toward nurse prescription. They prefer medical consultation with a physician. Moreover, society's attitude toward the nursing profession is so weak that in most situations, it not only prevents nurse prescription but also destroys nurses' confidence to experiment with it. "The community does not trust nurse prescriptions. I provide home care. When I go to a patient's house, although I know a medicine suitable for their condition, I usually do not recommend it because the patient does not accept the nurse as a prescriber." (Participant No. 10, a nurse with a master's degree in nursing).

Discussion

This study aimed to explain the executive challenges of nurse prescription based on the nurses' experiences in Iran. The four main categories of structure challenges, barriers related to professional staff, interprofessional separation, and society's attitude were identified as the executive challenges of nurse prescription from the data.

The main challenge for nurses in prescription medication is the structure challenges, particularly the lack of a clear law on nurse prescription, which has been identified and referred to in various studies.^[4,15,18] For instance, in Ireland, the fear of legal consequences is among the barriers to nurse prescription.^[19] However, due to the benefits of nurse prescription for the healthcare system, in many countries, the right to prescribe medication has been granted to nurses.^[6,13] Of course, the legal right for nurses to prescribe drugs has not been established overnight, and at first, its obstacles and challenges have been identified. For example, in Poland, a country where nurses have recently been given the legal right to prescribe medication, nurses' lack of awareness about the role and regulation associated with drug prescription and their poor readiness for taking on this role were among the factors and obstacles to the implementation of nurse prescription plan.[20] In another study, in addition to the legal and ethical aspects of nurse prescription, training nurses on drug prescription and strengthening their clinical decision-making were other important issues that facilitated the implementation of nurse prescription.^[6,21] Therefore, the government's proper strategy and facilitating the new role of nurses in

prescription medication is essential for nurses.^[22] Lack of support and negative organizational atmosphere were other concepts of the challenge of nurse prescription in Iran. In their study, Naderi *et al.* pointed out that the lack of financial support from managers was the barrier to nursing prescription in Iran.^[23] Furthermore, in Nuttall's study, the lack of infrastructure to support prescription is one of the barriers to nurse prescription.^[24] Arian *et al.*, in their study, state that the critical view of healthcare providers, lack of support, bureaucratic structure, and strict control of physicians out of legal requirements are the challenges of nurse prescription.^[4]

In the present study, other obstacles to nurse prescription in Iran included the physician-dominated culture of the health system and the conflict of interests between physicians and nurses. Physicians' resistance has always been considered an important obstacle to nurse prescription. Physicians are usually at the top of the hierarchical health system and defend their credibility and power.^[25] Nuttall noted in his study that GP boundary challenges prevent nurse prescription.^[24] In the United Kingdom, before the implementation of the nurses' prescription plan, many physicians had a negative attitude toward the idea of nurse prescription, arguing that despite the prescription role of nurses, the principle of nursing would suffer.^[26] In Ireland and the Netherlands, there has also been resistance from physicians toward the implementation of nurse prescriptions.^[27,28] Although there was resistance from physicians when initiating the project, health policymakers in many countries overcame this resistance to improve the quality of health care and create health justice. In this study, in the subcategory of nurse-related barriers, nurses' lack of knowledge and experience and poor self-confidence in drug prescription were other challenges of nurse prescription. A study by Courtenay et al. in the United Kingdom showed that drug prescription was one of the most challenging topics in personal development and gaining the knowledge and skills needed in this area. Therefore, nurses must receive adequate and appropriate training to acquire the necessary knowledge and skills regarding safe drug prescriptions. In this study, it was found that almost one-third of nurses were not qualified to prescribe medication.^[13] Another study found that nurses were anxious about their prescription role, including that nurses were unsure about their competence and pharmacological knowledge, and they considered it a role that requires the necessary and in-depth pharmacological knowledge. There was also evidence of anxiety and feelings of insecurity in self-diagnosis and self-confidence among nurses in regard to drug prescription.^[29] Lack of pharmacological knowledge is one of the important obstacles to the implementation of the nurse prescription plan mentioned in studies.^[24,30]

Poor communication between professionals and nurse or physician distrust is a challenge in implementing nurse prescriptions. Evidence shows that the relationship and mutual trust between physicians and nurses in the medical structure of Iran are weak.[31,32] Poor communication and collaboration not only have adverse consequences for the community's health promotion and healthcare recipients^[33,34] but are also a major challenge for the implementation of prescription drugs by nurses.^[4,15] For instance, Naderi et al. consider physicians' objection to nurses' prescriptions due to their fear of nurses' involvement in patients' treatment protocols.^[35] Moreover, Nuttall, in his study, stated that nurse relationship with General Physicians (GP) was a need for nurse prescription, and weak communication between nurses and GPs is one of the challenges of prescription medication by nurses.^[24] Andrilla et al. state in their study that lack of physician support or collaboration is a barrier to drug prescription in urban and rural areas of Washington State in the United States.[36] Karimi-Shahanjarini et al., in their study, expressed that communication, trust, and mutual respect were important factors in doctor-nurse substitution that helped nurses expand and develop their roles. They stated that doctors' trust and acceptance of nurses were critical in developing nursing scope, including nurse prescriptions.^[37]

Other findings of this study regarding the factors affecting the implementation of the nurse prescription plan include society's attitudes and interprofessional separation, about which there is often little or contradictory evidence. For instance, Shoqirat and Cameron, in their study, referred to cultural and social factors, such as nurses' poor credibility in public opinion and poor public image of nurses as obstacles to nurse prescription.[38] Evidence refers to the weak image of nursing in the social and cultural structure of Iran,^[39] which does not trust nurses as therapists as it trusts physicians. This issue has likewise been expressed in the study by Darvishpour et al.[15] Additionally, society's lack of knowledge about the nurse's role in prescription and the client's preference to see a physician instead of a nurse is evident in the study by Arian et al. In their study, they suggest community awareness and promotion of holistic care to overcome this barrier.^[4] Therefore, to better implement the nurse prescription plan in Iran, the reasons for the poor image of nursing in society should be identified, and society's attitude toward nurse prescription should be altered.

The limitation of this study was collecting the data only from three hospitals, which could create a bias associated with the policies and practices specific to those hospitals. Therefore, it is suggested that the practical challenges of nurse prescription be investigated in different hospitals in Iran. Moreover, the interviews were conducted by phone due to the coronavirus disease 2019 (COVID-19) pandemic; therefore, we did not observe participants' faces and body language, which was another limitation of this study.

Conclusion

It is necessary for the policymakers of Iran's healthcare

system to clarify the legal aspect of nurse prescription. Also, the projects of APN and training nurses on drug prescription, training physicians and nurses on collaboration and teamwork, and changing society's attitude toward nurse prescription through mass media are among the factors that can help nurses perform better in their new role by removing the existing barriers. Moreover, in the Iranian healthcare system, the general physician does not have the experience of nurses in prescription and access to specialist physicians is cost-effective and time-consuming for the client. Identifying and eliminating the challenges of nurse prescription facilitate community access to health care, increase client satisfaction, and lead to the development and independence of the nursing profession.

Acknowledgments

The authors would like to thank all the participants who patiently participated.

Financial support and sponsorship

Nursing and Midwifery Care Research Center

Conflicts of interest

Nothing to declare.

References

- Berman A, Snyder SJ, Kozier B, Erb GL, Levett-Jones T, Dwyer T, *et al.* Kozier and Erb's Fundamentals of Nursing Australian edition. Pearson Higher Education AU; 2021.
- Fong J, Buckley T, Cashin A. Nurse practitioner prescribing: an international perspective. Nursing: Research and Reviews. 2015; 5: 99-108.
- Kroezen M, van Dijk L, Groenewegen PP, Francke AL. Knowledge claims, jurisdictional control and professional status: The case of nurse prescribing. PLoS One 2013;8:e77279.
- Arian M, Nobahar M, Raiesdana N, Oghazian MB. Identifying the fields of activity, challenges and positive outcomes of nursing prescription: A systematic review. Hayat. 2018;24:279-95.
- 5. Summers RE, East L. Nurse prescribing: Developing confidence, autonomy and collaboration. Primary Health Care 2022;3;32.
- 6. Maier CB. Nurse prescribing of medicines in 13 European countries. Hum Resour Health 2019;17:1-10.
- 7. Sangster-Gormley E. Prescribing patterns of nurse practitioners in Canada. CMAJ 2016;188:173-4.
- Gielen SC, Dekker J, Francke AL, Mistiaen P, Kroezen M. The effects of nurse prescribing: A systematic review. Int J Nurs Stud 2014;51:1048-61.
- Kroezen M, van Dijk L, Groenewegen PP, de Rond M, de Veer AJ, Francke AL. Neutral to positive views on the consequences of nurse prescribing: Results of a national survey among registered nurses, nurse specialists and physicians. Int J Nurs Stud 2014;51:539-48.
- Kroezen M, van Dijk L, Groenewegen PP, Francke AL. Nurse prescribing of medicines in Western European and Anglo-Saxon countries: A systematic review of the literature. BMC Health Services Research 2011;11:1-17.
- Zarzeka A, Panczyk M, Belowska J, Mazur N, Lourido BP, Gotlib J. Nurse prescribing: Attitudes of medical doctors towards expanding professional competencies of nurses and midwives. J Pak Med Assoc 2019;69:1199-204.

- Courtenay M, Carey N, Gage H, Stenner K, Williams P. A comparison of prescribing and non-prescribing nurses in the management of people with diabetes. J Adv Nurs 2015;71:2950-64.
- 13. Courtenay M. An overview of developments in nurse prescribing in the UK. Nurs Stand 2018;33:40-4.
- Han S-F, Zhu R-F, Han H-H. A research report on the prescription rights of Chinese nurses. Chinese Nurs Res 2015;2:12-23.
- Darvishpour A, Joolaee S, Cheraghi MA. The necessity of nursing prescription from the perspectives of nursing policymakers. J Qual Res Health Sci 2020;5:56-70.
- 16. Ruotsalainen H, Kyngäs H, Tammelin T, Kääriäinen M. Systematic review of physical activity and exercise interventions on body mass indices, subsequent physical activity and psychological symptoms in overweight and obese adolescents. J Adv Nurs 2015;71:2461-77.
- Polit D, Beck C. Essentials of Nursing Research: Appraising Evidence for Nursing Practice. 10th ed. Wolters Kluwer Health; 2020.
- Faseleh Jahromi M, Moattari M. Prescriptive authority for Iranian nurses: A qualitative study. IJNR 2013;8:9-18.
- Lockwood EB, Fealy GM. Nurse prescribing as an aspect of future role expansion: The views of Irish clinical nurse specialists. J Nurs Manag 2008;16:813-20.
- Zimmermann A, Cieplikiewicz E, Wąż P, Gaworska-Krzemińska A, Olczyk P. The implementation process of nurse prescribing in Poland–A descriptive study. Int J Environ Res Public Health 2020;17:2417.
- Haririan H, Seresht DM, Hassankhani H, Porter JE, Wytenbroek L. Nurses, physicians and patients' knowledge and attitudes about nurse prescribing. BMC Nurs 2022;21:1-8.
- Bartosiewicz A, Różański A. Nurse prescribing-readiness of polish nurses to take on new competencies-A cross-sectional study. Healthcare (Basel) 2019;7:151.
- Naderi A, Janatolmakan M, Jalali R, Andayeshgar B, Khatony A. Iranian nurses' attitudes towards the necessity and barriers to developing nurse prescribing roles. BMC Nurs 2021;20:1-8.
- 24. Nuttall D. Nurse prescribing in primary care: A metasynthesis of the literature. Prim Health Care Res Dev 2018;19:7-22.
- Ling D-L, Lyu C-M, Liu H, Xiao X, Yu H-J. The necessity and possibility of implementation of nurse prescribing in China: An international perspective. Int J Nurs Sci 2018;5:72-80.
- Avery AJ, James V. Developing nurse prescribing in the UK. BMJ 2007;335:316.
- 27. Kroezen M, Francke AL, Groenewegen PP, van Dijk L. Nurse

prescribing of medicines in Western European and Anglo-Saxon countries: A survey on forces, conditions and jurisdictional control. Int J Nurs Stud 2012;49:1002-12.

- McBrien B. Personal and professional challenges of nurse prescribing in Ireland. Br J Nurs 2015;24:524-8.
- 29. Snell H, Budge C, Courtenay M. A survey of nurses prescribing in diabetes care: Practices, barriers and facilitators in New Zealand and the United Kingdom. J Clin Nurs 2022;31:2331-43.
- Weglicki RS, Reynolds J, Rivers PH. Continuing professional development needs of nursing and allied health professionals with responsibility for prescribing. Nurse Educ Today 2015;35:227-31.
- Mahmoodian F, Seyed Jafari S, Keshmiri M, Azimi A, HVosoughi M. Nurses' Experiences about the challenges of Nurse-Physician Professional Relationships, in 1390. Sadra Med J 2013;2:31-42.
- Shokri A, Yazdan Panah A, Vahdat S. The professional relationship between the nurses and physicians from their own point of view. J Health Care 2013;15:76-69.
- Mohammadi S, Borhani F, Roshanzadeh M. Moral distress and relationship between Physician and nurses. Medical Ethics Journal. 2016; 10:7-14.
- Masror D, Heydarikhayat D, Joolaee S. Assessing patient safety events and it's correlation with nurse-physician interaction from nurses' view. Quarterly Journal of Nursing Management. 2012;1:37-45.
- 35. Naderi A, Abbaszadeh A, Pazokian M, Rohani C, Jalali R. The expansion of the role of nurse prescribing in intensive care units in the healthcare system of Iran: A qualitative content analysis. J Med Life 2022;15:298-304.
- 36. Andrilla CH, Jones KC, Patterson DG. Prescribing practices of nurse practitioners and physician assistants waivered to prescribe buprenorphine and the barriers they experience prescribing buprenorphine. J Rural Health 2020;36:187-95.
- 37. Karimi-Shahanjarini A, Shakibazadeh E, Rashidian A, Hajimiri K, Glenton C, Noyes J, et al. Barriers and facilitators to the implementation of doctor-nurse substitution strategies in primary care: A qualitative evidence synthesis. Cochrane Database Syst Rev 2019;4:CD010412.
- Shoqirat N, Cameron S. Promoting hospital patients' health in Jordan: Rhetoric and reality of nurses' roles. Int J Nurs 2012;1:27-36.
- Sanagoo A. Improving the public image of the nursing profession: An enduring challenge for nurses. Curr Res Med Sci 2016;1:46-9.