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A Qualitative Study of Barriers, Facilitators, and Challenges of Providing High-Quality Hypertension Care in Health Centers in Iran: Perspectives of Healthcare Care Workers, Patients, and Health Center Managers

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Abstract

Background: Although the vital role of early diagnosing, and properly controlling hypertension has been emphasized for decades, a large number of hypertension patients still encounter barriers and challenges in accessing qualified cares. This study examined and identified barriers, facilitators, and challenges of providing high-quality care for patients with hypertension in health centers in Tabriz, Iran.

Methods: A descriptive qualitative study was conducted based on purposive sampling. The participants in this study included health care workers at health centers, patients with hypertension, and health centers managers at official positions (n = 19). Data was gathered through semi-structured interviews. Collected data was analyzed thematically.

Results: The mean duration of the interviews was 40 minutes (range: 30 to 60 minutes). The barriers were categorized into areas (sub-themes) of patient-related and health-center barriers. Facilitators included patient-related factors, external and environmental activities of health centers, and activities of Iranian health system. Furthermore, the challenges were categorized into (sub-themes) patient-related, environmental, and health system challenges.

Conclusion: There are major barriers and challenges in providing qualified and comprehensive services for patients with hypertension. Stakeholders should consider removing these barriers and challenges, and facilitators should be used to provide health services to hypertension patients.

Keywords: Hypertension, Primary health care, Health centers, Hypertension care

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Introduction

Today, despite early diagnosis and proper control, more than 30% of patients with cardiovascular problems still die, and two-thirds of those who survive are not fully cured and return to normal life (1). These diseases are spreading rapidly all around the world and are the leading cause of mortality in developed countries (2). Among cardiovascular diseases, hypertension is the largest risk factor for death (3).

Hypertension is the force which blood flows in the arteries and is produced by the heart. It depends on two important factors: the output of the heart (5 to 6 L/min) and the resistance of the arteries (4). Hypertension is usually more common in men than in women in most countries, whereas, in Iran, it affects women more and is also more common in urban communities due to lifestyle and diet than in rural people (5). In addition, this disease is directly related to aging. However, by taking measures and taking preventive measures, its occurrence can be delayed or prevented (6). Hypertension is one of the diseases that directly involves patients in the treatment and control, and their knowledge about different aspects of treatment is important (7).

In the world, it is estimated that 1.4 billion people have high blood pressure, but fewer than 15% of them have controlled their blood pressure to 140/90 mm Hg or lower (8). Low- and middle-income countries (LMICs) have the higher burden of hypertension, where healthcare systems are often weaker than high-income countries (9,10). Thus, the prevalence of hypertension in LMICs, is estimated to be as high as or higher than in many high-income countries (11). Studies on the prevalence of hypertension in Iran reported different rates (12,13). According to a meta-analysis in Iran, hypertension

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prevalence is 25% in women and 24% in men (14).

The prevalence of hypertension can be affected by different factors, such as age, race, gender, access to health care services, and socio-economic characteristics (15). Iran is a LMIC country with approximately 85 million people with different ethnicities. Iran's ethnic diversity resulted in a variety of cultures, behaviors and socioeconomic conditions, all of which can have an impact on person/s blood pressure (14). According to available data from Iran, awareness, treatment, and control of hypertension is generally low. For example, a study in Yazd (a province in the center of Iran) Showed that 53% of patients were aware of their disease, 24% of them were receiving treatment, and only 8% of them had high blood pressure under control (16).

So far, in the field of primary prevention of hypertension, numerous guidelines and prevention programs have been developed, including population strategies and high-risk groups. These guidelines and programs are now being used in communities at the international level of health organizations and professionals. Strategies based on high-risk groups, which intend to identify individuals at high risk for hypertension, are designed and developed to focus on non-pharmacological and pharmacological treatments in high-risk groups, taking into account the risk of infection (17-19). In Iran, these guidelines and programs are used in health centers, and services related to hypertension are provided in these centers. The present study mainly aimed to explore barriers, facilitators and challenges of providing high-quality care for patients with hypertension in health centers in Tabriz, Iran. We intend to improve the care program for patients with hypertension in health centers in Tabriz, Iran. This study addresses the following questions:

- What are the barriers in providing high-quality care for patients with hypertension in Health Centers in Tabriz, Iran?
- What are the facilitators in providing high-quality care for patients with hypertension in Health Centers in Tabriz, Iran?
- What are the challenges in providing high-quality care for patients with hypertension in Health Centers in Tabriz, Iran?

Methods

Study design and setting

A qualitative descriptive methodology was used to explore the care program for patients with hypertension in Health Centers in Tabriz, Iran. This study was conducted from November 2020 to September 2021 at Tabriz University of Medical Sciences (TBZMED), northwest of Iran.

Participants

In this qualitative study, the participants were selected using a purposeful sampling technique to identify information-rich ones. The study population included all stakeholders associated with the hypertension screening program, which included health care workers, health centers managers, and hypertension patients.

Health care worker's inclusion criteria: 1) Iranian nationality; 2) at least a BSC university education; 3) a working experience of at least 3 years in health centers; 4) voluntary participation with the ability to present a reliable picture of the phenomenon under study; and 5) the permission for audio recording the interviews. Patients who currently had high blood pressure and a complete medical record met the inclusion criteria. Additionally, health centers managers who had rich information on chronic diseases and health were included too. Interviews continued until data was saturated.

Data collection and tools

Two researchers completed semi-structured interviews with health care workers, health centers managers, and hypertension patients. All interviews were recorded and conducted in-person or by phone. One interview guide with open-ended questions and prompts were used. The interview questions were developed using key informants' viewpoints and the literature.

Data analysis

In this study, we used thematically analyzed the interviews. Interviews took from 30 to 60 minutes. Following each interview, we recorded reflexive notes highlighting key concepts. At the first phase of our analysis, we began to make sense of participants' narratives and transcribed them. Moreover, MAXQDA software was used to code and categorize the data into sub-themes. During the analysis process, transcripts were frequently checked to ensure that our interpretation matched interviewees' perceptions and understanding of strength-based approaches. After coding the transcripts, the codes were categorized into sub-themes and themes based on their similarities.

Trustworthiness

In this study, by using an iterative data collection strategy credibility was maximized. The research team continuously encouraged the participants to comment on data interpretation, aiming at providing insights from the health centers and a shared understanding. This process supported data triangulation as we could confirm or challenge the findings from multiple participants, patients, health care providers and health network managers. Transferability was addressed through providing a full description of the setting. We kept an audit trail of theoretical and process notes to increase dependability and confirmability.

Results

Nineteen interviews (12 women) were administered

between February and July 2021. The interviews mean duration was forty minutes (30 to 60 min), and the mean age of the participants was 44 (SD = 4.8) years. Four participants had PhDs. Table 1 shows the detailed characteristics of study participants.

In the first phase, the barriers, facilitators, and challenges were identified for each code. Further analysis identified overarching themes which described the barriers, facilitators, and challenges according to sub-themes. The barriers were classified into areas (sub-themes) of patient-related and health center barriers. Then the findings revealed three sub-themes of facilitators, including patient-related factors, external and environmental activities of health centers, and activities of Iranian health system. Furthermore, the challenges were categorized into (sub-themes) patient, environmental, and macro level (health system) challenges. The barriers, facilitators, and challenges are detailed in Table 2.

Barriers of providing hypertension care

Patient-related barriers

A number of identified barriers to receiving hypertension services are related to the patients. One of the hypertension patients stated:

"I cannot afford the medicine. Why go to the health center when I do not have medicine. This has made my blood pressure a problem in life."

Barriers related to health center

Health centers in Iran have been established to provide health services to patients and the general public. Caring for hypertension patients is one of the main tasks of these centers, and there are some obstacles that need special attention. Another patient said:

"*Why should I go to a center that has a low quality of service? These centers are a waste of time and should improve the quality of service. In general, these centers are not a good place to receive health services."*

Table 1. Details of study participant's characteristics (n = 19)

Qualitative variables				Frequency
Gender	Male			7
	Female			12
Age (y)	< 40			5
	40–49			8
	> 50			6
Marital status	Married			17
	Single			2
Educational level of health care workers and health centers managers	Bachelor			7
	Master			3
	PhD			4
Stakeholders	Health care workers			8
	Health centers managers			6
	Hypertension patients			5
Quantitative variables	**Minimum**	**Maximum**	**Mean**	**SD**
Average age (y)	32	57	44	4.8
Average work experience (years) of health care workers and health centers managers	6	31	22.3	6.7

Facilitators of providing hypertension care

Patient-related factors

According to most participants, facilitators related to patients has a substantial role in increasing the quality of hypertension care. One health care workers stated:

"Patients do not visit the health center regularly. We recommend that they come to the health center on a regular basis to receive appropriate services to control their own hypertension."

External/environmental activities of healthcare centers

During the COVID-19 pandemic, using tele-health and cell phones-based services improves health services for hypertension patients. One of the managers of the health centers noted:

"Our centers need to use cell phones-based services. Smartphones reduce the need for face-to-face visits and make it easier to provide services to patients, especially during the current epidemic."

Activities of Iranian health system

Iranians, either as individuals or a population, must have access to high-quality health services, which are effectively provided within a well-coordinated public health system, to enjoy optimal health. Therefore, the role of a health system in providing quality services to hypertensive patients are important. One manager of the health centers stated:

"Our health centers have financial challenges. That is why they cannot provide good services. Our health system is responsible for these centers. That is, it must provide sustainable financial resources for these centers to provide quality services to hypertensive patients."

Challenges in providing hypertension care

Patient's challenges

The analysis showed that there are problems in providing services to hypertensive patients, some of which are related to the patients. For example, patients visit specialist doctors instead of health centers. A health care workers said:

"The patient does not pay attention to us. We call and tell him to come to the health center. He says I went to a specialist and received services. So, this is a big problem, and our role is lost in the middle."

Environmental challenges

There are different environmental factors that are

Table 2. The results presented in main themes, sub-themes, and final codes

Main themes	Sub-themes	Final codes
Barriers in providing hypertension care	Patients related barriers	Little awareness of patients about the complications of hypertension
		Willingness of patients to monitor own blood pressure's at home
		Inability of the elderly to visit HC
		Not feeling tangible result from monthly hypertension control procedures
		Daily life problems of patients'
		Dissatisfaction of patients from lack of comprehensive services
		Financial problems of some patients to buy medicines
		Irregular and un scheduled visits to the HC
		Fewer visits by men
		High anxiety and stress of patients
	Health center barriers	Inadequacy of health facilities and their infrastructures
		Large number of patients with high blood pressure
		High workload of HCWs
		Lack of a precise schedule in providing patient services
		Lack of comprehensive hypertension control cares in the HCs
		Low quality of health center's services
		Lack of permanent presence of general physicians in HCs
		The repetitive and boring process of providing care for patients
		Lack of continuous monitoring of patients' blood pressure by HCWs
		Failure to integrate the patient information system
		Unreliability of blood pressure measuring devices
		Poor treatment regimen of patients
		Lack of specialist doctor in PHCCs
		Weakness in training of HCWs
		Inappropriate interaction of HCWs with service recipients
		Lack of involvement of patients and other stakeholders
		Lack of stable financing
Facilitators in providing hypertension care	Patients related factors	Regular and scheduled visits to the health center
		Existence of a loyal relationship between patients and the health center
		The positive impact of higher education on receiving care
		Families and social support to patients
		Used of Islamic-based religious program
	External and environmental activities of health centers	Continuous follow-up to provide care to patients
		Availability of doctors in the health center
		Proper interaction with respect and esteem of employees with those who refer to the health center
		Providing medication to encourage patients to refer the health center
		Holding training workshops for health care providers
		Apply the potential of cell phones and Telehealth
		Assign tasks to follow up hypertension patients to a specific person
		Use of financial incentives for health care providers
	Activities of the Iranian health system	Provide a sustainable budget for the health centers
		Planning to provide comprehensive health services
		Use of mass education in mass media
		Continuous monitoring of health centers
		Complement the involvement of the private and public sectors in the provision of health services
		Connecting private and public centers to the patient information system
		Involve people and other stakeholders

Table 2. Continued

Main themes	Sub-themes	Final codes
Challenges in providing hypertension care	Patient related challenges	Weakness of public awareness of the dangers of hypertension
		The role of the health center in the general public is diminishing
		Low culture of some patients
		Poor treatment regimen of patients
		Satisfying patients with sphygmomanometers at home
	Environmental challenges	Lack of a specialist doctor in the health center
		Considering the health center merely as a vaccination center among the people
		Lack of integration in the patient information system
		Malfunction of the sphygmomanometer
		Generality of trainings related to hypertension
	Health system challenges	Weakness in the implementation of hypertension programs
		Not using the capacities of the private sector
		Having only a slight look at top managers in providing care to hypertension patients
		Lack of up-to-date hypertension care training
		Do not fund doctors
		Lack of doctors staying in health centers

considered major challenges in the setting. One patient expressed that:

"I once went to the center to get my blood pressure. But I saw that their device was broken and they could not measure my blood pressure. These problems in the health center that are not good."

Challenges due to the macro level (health system)

Iran's health system, especially in the health sector, is dependent on the central government, and there are challenges in providing services to hypertensive patients in this system. One of the health center managers stated that:

"The health system's plans and policies for keeping doctors in health centers have been wrong. Doctors in health centers are reluctant to work and leave early."

Discussion

This study aimed to explore barriers, facilitators, and challenges in providing high-quality care for patients with high blood pressure in Primary Health Centers in Iran. To the best of our knowledge, this study is a pioneering attempt in examining barriers, facilitators, and challenges of the hypertension health care in Tabriz, Iran.

One of the main obstacles to receiving services from patients is insufficient knowledge and awareness of the risks of hypertension. Previous studies have shown that patients are hospitalized due to their lack of information and knowledge about hypertension and its caring (20). Also, in health centers, special attention should be paid to healthcare providers. The heavy workload of these employees has been expressed as one of the barriers in providing health services, which has been highlighted by previous studies (21,22). The lack of knowledge was the most common barrier to hypertension awareness. Stress, anxiety, and depression were the most commonly reported barriers that hindered or delayed adopting a healthier lifestyle and receiving health care in patients.

The COVID-19 pandemic, which began in the late 2019, posed many challenges for people, health care workers, and managers of healthcare organizations in providing services for patients (23). As a result, innovative initiations are needed to address the more critical needs of patients who need healthcare services (24). In this respect, modern technological (i.e. telehealth) tools can provide services and do not require direct patient-provider interaction (25).

According to the findings of this study, in hypertension patients, social support can act as a facilitator. In addition, increasing personal competence, perceived control, sense of stability, and valued cognition have a positive impact on life quality and reduce the risks of physical and mental problems (26,27). Also, family, government support, and personal knowledge, were reported as important factors in success management of hypertension (28). Iran is an Islamic country where religious beliefs play an important role in promoting of patient's health. Consistent with the findings of our study, Moeini et al showed that Islamic religious programs promoted the spiritual health of elderly patients, thus health service providers can use these programs to promote the spiritual health of patients (29).

Numerous facilitators were identified in our study that have been emphasized in previous studies. For example, a study in Iran suggested that health care providers should pay more attention to non-pharmacological education and recommendations and provide regular monthly care with the help of center physicians. Also, using new technologies for virtual education can help patients with hypertension (30). The health systems in the world can

also improve the quality of services for patients through their actions. The results of a study in Ecuador showed that information technology (IT) creates new possibilities for improving the care for patients with high blood pressure through public educational strategies (31).

Furthermore, our findings showed that one of the most important challenges in providing services to hypertensive patients was poor treatment regimen. Failure to follow a treatment regimen is the most common cause of failure of antihypertensive drugs in controlling hypertension, and the risk of uncontrolled hypertension is doubled by not taking the medication. Non-adherence to a treatment regimen, is a complex behavioral process and influenced by a number of factors, such as patients' characteristics, physician-patient interaction, and health care systems (32).

Other challenges reported in this study include low patient satisfaction with services, which leads to disobedience to treatment instructions. In fact, one of the roots of failure in providing appropriate services to hypertensive patients is the inadequate following of the instructions by the treatment team (33). The medical equipment in health centers has a key role in providing health services to hypertension patients. Similar to our findings, the results of a study in Yemen revealed that the breakdown of medical equipment negatively impacts the services to hypertension patients, and the resources needed by the centers should be provided (34).

Conclusion

This study has explored barriers, facilitators, and challenges of hypertension control among the hypertensive patients in health centers in Tabriz, Iran. There are major barriers and challenges to providing qualified and comprehensive services to patients with hypertension, all of which must be removed by key stakeholders, such as health policy makers, health managers, health care providers, and patients. Finally, the government, family, and community should also support these patients to increase their awareness and use regular programs, modern technologies, up-to-date training, appropriate facilities, and sustainable resources to improve health services of hypertension care.

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Authors' Contribution

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Competing Interests

The authors declare that there is no conflict of interest in this study.

Ethical Approval

This study was approved by Ethics Committee of Tabriz University of Medical Sciences (No. IR.TBZMED.REC.1399.1066). All participants contributed voluntarily. In addition, the written informed consent and agreement to the publication of anonymous quotations was obtained from the participants.

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