

## Assessing Health System Responsiveness in Iraq: A Comprehensive Evaluation through Cross-Sectional Study

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### Abstract

**Background:** Responsiveness is an indicator by the World Health Organization (WHO) to evaluate the performance of health systems on nonmedical expectations of consumers. This study aimed to assess the responsiveness of the health system in Iraq, focusing on urban and rural populations across 6 provinces: Baghdad, Wasit, Karbala, An-Najaf, Babil, and Maysan.

**Methods:** A cross-sectional study design was employed, involving a total population of 2400 individuals from 400 households in each province. Cluster sampling was utilized to select participants, with data collected using the World Health Organization's "Global Health Survey" questionnaire, which assesses 7 dimensions of health system responsiveness. These data were analyzed using Stata Version 17 to examine statistical relationships, while Microsoft Excel was used to generate visualizations. Descriptive statistics included frequencies and percentages for qualitative variables, and means with standard deviations for quantitative variables.

**Results:** The findings revealed a high prioritization among respondents for the following aspects of health system responsiveness: quality of facilities (95%), confidentiality of personal information (93.71%), and prompt attention (90.72%). Clarity of communication (61.79%) and autonomy (60.91%) were rated as the most favorable dimensions, while prompt attention (58.94%) and quality of facilities (55.46%) received the lowest ratings. Experiences of discrimination were prevalent, with 34.50% reporting discrimination based on financial status, 26.87% based on social class, and 21.37% based on sex.

**Conclusion:** The study underscores the urgent need for improvements in health system responsiveness in Iraq, particularly in areas such as prompt response and service quality. Addressing these issues is crucial for enhancing the overall effectiveness and equity of healthcare services in the region.

**Keywords:** Health Services Utilization, Health Care Delivery, Health Services, Iraq, Cross-Sectional Studies

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### Introduction

Delivering reliable healthcare services on a global scale necessitates robust and efficient health systems (1). Health systems strive to achieve several objectives, including promoting good health, being responsive to the population's needs, and ensuring equitable financial contributions (2).

According to the World Health Organization (WHO), responsiveness is defined as the capability to provide patients with treatment and care in a fair and impartial setting, regardless of their social standing or individual differences (3, 4).

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#### ↑What is "already known" in this topic:

Health system responsiveness is crucial for healthcare quality and patient satisfaction. Global studies, including the World Health Organization surveys, have examined dimensions like care quality, confidentiality, and communication. However, Iraq's health system remains understudied, especially regarding urban-rural disparities and socioeconomic impacts on healthcare experiences.

#### →What this article adds:

This study assesses Iraq's health system responsiveness across 6 provinces, revealing urban-rural differences. While facility quality, confidentiality, and prompt attention perform well, communication and autonomy need improvement. It also highlights discrimination based on financial status, social class, and sex, calling for equitable healthcare reforms.

Enhancing nonmedical health aspects is vital for healthcare systems, as it promotes overall well-being and aligns with the ultimate aims of these systems. Consequently, healthcare systems are increasingly seeking innovative methods to address the requirements of patients and the general public (5). Health systems should effectively respond to patients' needs in nonclinical domains, such as communication, autonomy, and confidentiality, in accordance with the WHO's health system responsiveness indicators (6). Addressing expectations in nonclinical areas underscores the importance of respecting patients' dignity, choice, and the confidentiality of their information (7).

Engagement with the healthcare system significantly influences an individual's overall well-being. While advancements in health represent one avenue for enhancing well-being, various factors associated with a person's experiences within the healthcare system also contribute markedly to this outcome. These factors encompass the quality of interaction individuals receive and the environment in which care is administered, collectively referred to as responsiveness. Both health outcomes and responsiveness can be delineated across multiple domains (8).

The WHO has established responsiveness as a key indicator of health system performance (9). As an essential tool for policymakers and managers, health system responsiveness enables the assessment of the quality of health services provided to clients, facilitating the collection of valuable feedback (10). The WHO framework for responsiveness delineates a set of domains pertinent to the concept of responsiveness. This classification is grounded in a comprehensive review of the literature pertaining to patient satisfaction and quality of care. The selected domains are designed to be comprehensive, conducive to self-reporting, and comparable across different populations and contexts (11).

The 8 domains identified include "autonomy," "prompt attention," "confidentiality," "choice of provider," "dignity," "clarity of communication," and "quality of basic amenities," which apply to both outpatient and inpatient care. Moreover, the domain of "social support" is deemed relevant exclusively to inpatient care settings (11). Collecting and analyzing data at the population level regarding patients' healthcare experiences will become increasingly crucial for policy and planning, contributing to the Sustainable Development Goals (3, 12).

Due to socioeconomic and cultural influences, nearly one-third of the global population lacks access to essential healthcare services. Previous research has identified various factors impacting the utilization of health services, including perceived health status, access to facilities, insurance coverage, socioeconomic status, education, and geographic location (13).

Two essential aspects of responsiveness are respect for patients and a client-oriented approach. It is important to distinguish patient responsiveness from patient satisfaction and quality of care, as responsiveness measures nonclinical factors of healthcare through individual interactions across the entire system (9). Furthermore, responsiveness can be quantified by analyzing its levels and distribution among various social groups (14). According to the WHO's 2000

report, Iraq was ranked 103rd in responsiveness and 114th in the distribution of responsiveness. The report also included rankings for neighboring countries such as Iran (100 and 93), Syria (69 and 79), Turkey (93 and 66), and Jordan (84 and 53) in terms of responsiveness and their distribution (15). Geographical inaccessibility and high healthcare costs have been identified as barriers to the full utilization of health services in Iran (13). Moreover, confidentiality and effective communication have been deemed crucial for the responsiveness of healthcare systems in Tanzania, Iran, and Ethiopia (1).

There is still a lack of understanding regarding the disparities in health service utilization and responsiveness between urban and rural areas. This comprehensive study aims to fill that gap by providing valuable insights to policymakers about local public health organizations and services. It assesses households' perceptions of how well outpatient and inpatient services meet their legitimate expectations from 2023 to 2024. In addition, the study investigates factors that influence this responsiveness, the extent of financial contributions, and the equity of these responses. The analysis encompasses various societal groups across 6 Iraqi governorates, which differ in economic, social, cultural, and geographic contexts.

This study aimed to evaluate health service utilization and responsiveness in both urban and rural environments across 6 provinces of Iraq: Baghdad, Wasit, Karbala, An-Najaf, Babil, and Maysan. The findings will provide a critical foundation for reforming primary healthcare services in the region. Measuring health system performance provides decision-makers with valuable, up-to-date information on their health systems' performance. Program managers and policymakers can then utilize this information to assess progress toward national goals and evaluate relevant policies. By monitoring and evaluating reforms in real time, there is an opportunity to provide evidence that guides the implementation of reform measures. Considering these critical variables is essential for health policymakers when reviewing and revising recent reforms. This research provides essential evidence to support effective health reform initiatives, ensuring that the perspectives and needs of marginalized populations are appropriately considered in policy development.

## Methods

### Study Design and Setting

This cross-sectional study was conducted in Iraq from January 2022 to December 2023, involving households across multiple provinces. It aimed to assess the health system's responsiveness based on the WHO guidelines. Data were collected over 2 years to capture seasonal variations and differences in healthcare access.

### Study Population and Sampling Method

The sample size was calculated to achieve 95% CIs and a 5% margin of error, assuming a 50% response rate. This resulted in a target of approximately 384 households per province, increased to 400 to account for non-responses and missing data, yielding a total of 2400 participants. This size provided sufficient statistical power to detect differences in

Table 1. Seven Dimensions and Description of Health System Responsiveness

Dimensions	Description
Dignity	Treating with respect for the dignity of all people and away from discrimination
Autonomy	Participating in treatment-related decisions and obtaining consent from the individual before any treatment or testing
Confidentiality	Maintaining the confidentiality of the patient's information and his privacy
Clarity of Communication	Listening to the patient, giving him enough time to ask questions and giving him clear answers
Prompt Attention	Easy and timely access to health service providers and receiving emergency services as soon as possible
Quality of Facilities	Cleanliness, sufficient space, good air conditioning and healthy food
Choice	The right to choose and change the location as well as the person providing health services

health system responsiveness across provinces, including urban and rural areas. Each province was divided into 40 sampling points (20 urban and 20 rural), with 10 households randomly selected per point, totaling 400 households per province.

A cluster sampling approach was used, treating each sampling point as a cluster. Within clusters, 10 households were chosen sequentially, starting with the cluster head and following a predetermined direction, based on WASH subscription numbers. Replacement households were selected if a chosen household was vacant or uninhabitable. The final sample consisted of patients who had used outpatient or inpatient medical services in the previous 12 months.

#### Data Collection

Data were collected using the WHO's "Global Health Survey" questionnaire, which was developed in 2003 to assess health system performance. This instrument includes 7 dimensions that evaluate both the importance and performance of health system responsiveness from the perspective of healthcare users (Table 1).

The "household roster" module gathers demographic information about every member of a household, including age, sex, and their relationship to the head of the household. The "health intervention coverage" module evaluates the availability and uptake of essential health services and interventions. The "health insurance" module collects data on the type, extent, and impact of health insurance coverage among individuals. The "health expenditure" module analyzes total expenditures, categorizing them into food, housing, and healthcare. Furthermore, the "indicators of permanent income" module captures information on household assets and income sources, assisting in the assessment of respondents' socioeconomic status. Lastly, the "occupation" module outlines the employment status and types of occupations held by household members, thereby enhancing our understanding of the relationship between employment and health outcomes. Collectively, these modules form a comprehensive framework for analyzing health system performance and guiding policy decisions.

The study objectives were initially explained to the heads of households, who were assured that their information would remain confidential and that the questionnaires would be completely anonymous. After obtaining both verbal and written consent, the interviews and data collection commenced.

#### Statistical Analysis

The collected data underwent a validation process, and response options were established (Table 1). Statistical analyses were conducted using Stata software Version 17 to explore relationships between variables. Additionally, Microsoft Excel was utilized to create visual representations of the research findings. Descriptive analysis included the computation of raw frequencies and percentages for qualitative variables, as well as the calculation of mean values and standard deviations for quantitative variables.

#### Results

A total of 2400 households were initially identified, all of which were examined and confirmed eligible for the study. The same number of households (2400) were included, completed the survey, and were analyzed for the final results. Also, 60.66% (n = 1456) of the participants in the study were women, and most of them (85.46%) were married. In addition, the majority of heads of households (86%) were men (Table 2).

In response to this question, how important is each aspect of the responsiveness of the health system to the respondents: Quality of Facilities (95%), the confidentiality of personal information (93.71%), prompt attention (90.72%), the right to Choice (87.21%), Autonomy (85.25%), Dignity (83.62%), and Clarity of Communication (82.25%) were "important" and "very important" for the respondents (Figure 1).

Table 3 and Figure 2 indicate the percentage of participants who evaluated the dimensions of responsiveness of Iraq's health system as "appropriate and completely appropriate." Clarity of communication and autonomy, with 61.79 and 60.91, had the best performance, respectively. Also, prompt attention and quality of facilities, with 58.94 and 55.46, had the worst performance, respectively.

In response to this question, have you been discriminated against by medical personnel because of your sex, age, lack of money, social class, or condition of illness? The most discriminations were "due to the lack of money" and "because of social class" with 34.50% and 26.87% respectively. Also, 21.37% of participants stated that they have been discriminated because of their sex (Table 4).

#### Discussion

The main objective of this study was to measure and determine the level of responsiveness to the health system and health service providers in Iraq. The study highlights that quality of facilities, confidentiality, and prompt attention

Table 2. Demographic Characteristics of Households in Study

Demographic Characteristic	Number	Percent
Gender		
Male	944	39.33
Female	1456	60.66
Marital status		
Married	2027	84.46
Not married	373	15.54
Gender of head of household		
Male	2054	86.00
Female	346	14.00
Insurance status		
Yes	1601	66.71
No	799	33.29
Supplementary health insurance		
Yes	195	8.12
No	2205	91.88
Member under 5 years old		
Yes	1507	62.79
No	893	37.21
Member over 60 years old		
Yes	1146	47.75
No	1254	52.25

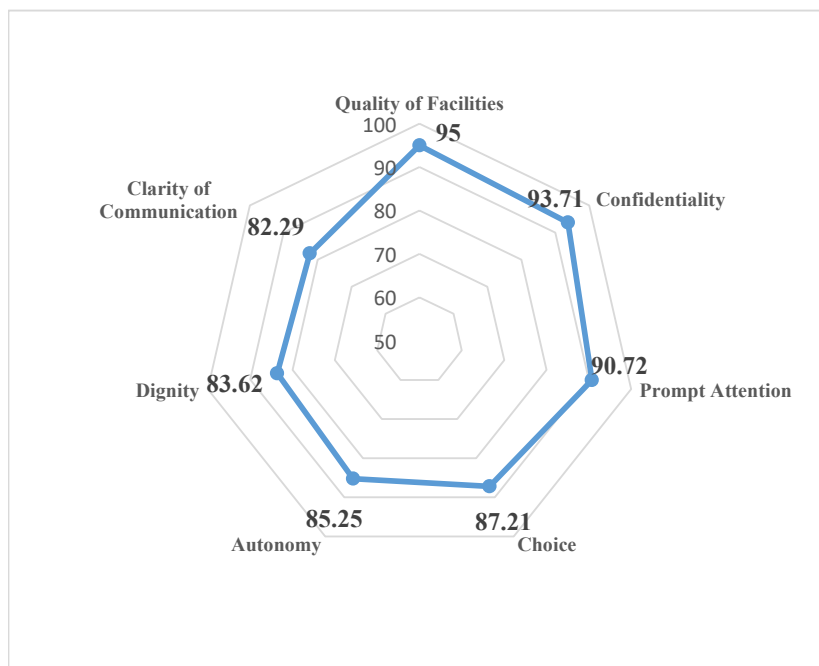


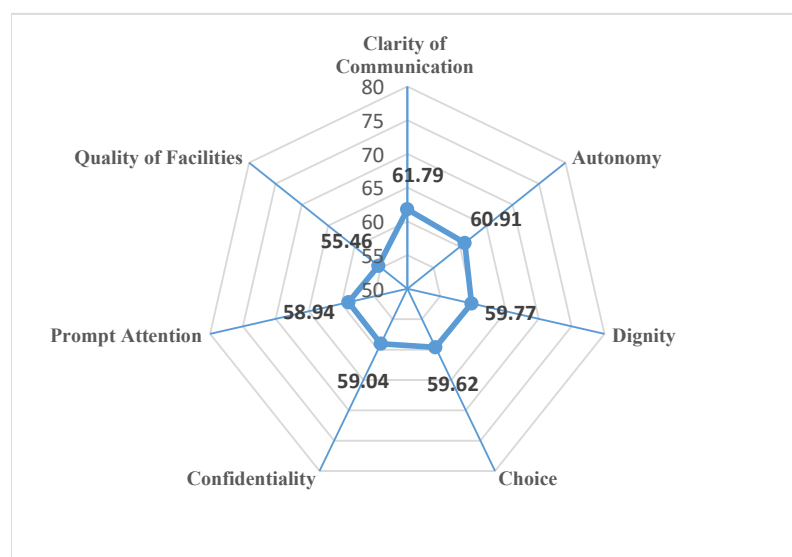
Figure 1. Explaining the importance of the Dimensions from the perspective of the respondents

are highly prioritized in Iraq's health system, aligning with findings from low-resource settings. Unexpectedly, clarity of communication and autonomy were rated favorably, contrasting with previous studies. The results of the present study showed that quality scales, preservation of personal information confidentiality, and prompt attention from the people's perspective are more important than other scales related to the health system's responsiveness in Iraq. Therefore, it can be concluded that patients in healthcare centers in Iraq pay more attention to these aspects of the healthcare system. On the other hand, it can be argued that the health care system in Iraq likely faces problems and challenges on the mentioned scales, which patients pay more attention to

and consider more important. An important point regarding the quality of centers and the services provided is that the primary focus of the Iraqi people, especially the samples examined in this study, is on these scales. Resources and the allocation or distribution of financial and human resources are key and influential points in the quality of services in any country (16, 17). In a way, past research has shown that countries with higher income and higher per capita gross national income have better quality in providing health and medical services (18-20). In Iraq, one of the main challenges that has led to increased sensitivity to the quality of health services is the lack of sufficient financial and human resources to provide health-related services (21-

**Table 3.** Scores of the Dimensions of Responsiveness According to the 3 Options: Appropriate, Medium, and Inappropriate From the Point of View of the Respondents

dimensions of responsiveness	Appropriate	Medium	Inappropriate**
Prompt Attention			
The time needed to reach the clinic...	59.50	26.21	14.29
Waiting time for admission	58.38	29.54	12.08
Dignity			
Treating and speaking respectfully by the doctor and medical staff	61.04	29.88	9.08
Privacy during physical examination and treatment	58.50	25.75	15.75
Clarity of Communication			
Adequacy and adequacy of the explanations of the issues...	61.67	28.38	9.96
Sufficient time to ask about problems and treatment	61.92	26.46	11.63
Autonomy			
The amount of information about other treatment options	60.83	26.88	12.29
The degree of involvement of a person in making decisions regarding treatment and care	61.00	27.54	11.46
Confidentiality			
Talk privately with your health care provider	58.75	27.46	13.79
Privacy of personal information	59.33	27.04	13.63
Choice			
Freedom to choose your health care provider	59.62	28.25	12.13
Quality of Facilities			
Clinic or hospital hygiene	59.13	28.05	12.79
Sufficient space and space in the waiting room and examination room	51.79	27.92	51.79

**Figure 2.** Responsiveness dimensions are based on respondents' satisfaction with the dimensions of responsiveness that they considered "Appropriate" and "completely appropriate."

23). This problem has led to an increase in the sensitivity of the Iraqi people to paying attention to and trusting health services. In conditions of resource scarcity, health services are provided in a way that lacks trust and necessary support, which is accompanied by many challenges. On the other hand, in this situation, the possibility of independence, especially in receiving information about the type of treatment and patient participation in decision-making about treatment options and care, may be challenged (23).

The responsiveness of the health system in each country is influenced by multiple factors that can have a significant impact on the quality and performance of the country's healthcare system. Some of the factors affecting the responsiveness of the health system in countries include financial

and economic resources, the structure of the healthcare system, the development of healthcare infrastructure, attention to preventive levels, transparency and governance, payment methods, community participation and interaction, and education. The financial income of countries and the allocation of resources to the healthcare system can have a direct impact on responsiveness. Countries with more resources may be able to make their healthcare system more responsive and accountable. On the other hand, effective and flexible systems may provide the best response to the needs and changes of society (3, 8, 11, 24, 25). The healthcare system in Iraq, like other countries, is influenced by these factors. These factors can have an impact on the people of Iraq and the responsiveness of the country's



Table 4. Experience of Discrimination by Participants Because of Sex, Age, Lack of Money, Social Class, and Type of Illness

In the last experience of receiving health services, have you been discriminated by medical personnel for one of the following reasons?	Yes N (%)	No N (%)
Because of your gender	513 (21.37)	1887(78.63)
Because of your age	339 (14.12)	2061 (85.98)
Due to lack of money	828 (34.50)	1572 (65.50)
Because of your social class	645 (26.87)	1755 (73.13)
Because of the type and condition of your illness	560 (23.33)	1840 (76.67)

healthcare system in economic, social, cultural, and political terms (17, 23). In the economic field, the reduction of financial resources and their inappropriate allocation to the healthcare system may lead to a reduction in responsiveness. On the other hand, negative economic impacts, such as financial crises, can also affect the quality and access to healthcare services. One of the solutions to reduce the negative impact of these factors on the healthcare system and increase responsiveness in the Iraqi healthcare system is to increase public awareness and promote preventive programs for the general public, which can help reduce the burden on the healthcare system and improve its response to healthcare challenges. In addition, the development of healthcare infrastructure, especially in areas with higher and more severe needs, can facilitate the improvement of the responsiveness of the healthcare system in this country. The impact of strong and transparent governance is also vital in increasing public trust and improving the responsiveness of the healthcare system in Iraq. Creating appropriate financial incentives for service providers and avoiding corruption, active community participation, and continuous interaction with patients can be effective factors in addressing challenges and achieving responsiveness in the Iraqi healthcare system under specific conditions. Therefore, planning and implementing appropriate policies, taking into account all of these factors, can help improve the healthcare system in Iraq.

The participants in the present study have reported that they have faced discrimination and suffering when receiving healthcare services in Iraq. This situation may be attributed to various factors, including the lack of sufficient financial resources in the healthcare system, which can lead to a reduction in the quality of services. On the other hand, the economic and social status of patients can also justify and explain this discrimination and its impact. For example, patients in a specific social class may feel more discriminated against due to inequality and unfair distribution of healthcare services. These results indicate that the economic and social impacts are highly significant in the responsiveness of the healthcare system in Iraq. To improve the situation, it is necessary for economic and social policies to reduce inequalities as much as possible and ensure that healthcare services are provided proportionally and fairly to all segments of society.

In the other part of the study, the results show that the companies in the evaluation of the size of the response of the Iraqi health system, based on their own opinion, have assessed this system regarding the needs and expectations of the people. These assessments may help decision-makers and policymakers in the health and medical fields to identify the strengths and weaknesses of the Iraqi health system and to implement necessary improvements. The correlation

and independence scores with the "appropriate and completely appropriate" assessment criteria were 61.79% and 60.91%, respectively. This indicates that, in the 2 categories, the performance of the Iraqi health system, according to the companies' opinions, was good. This may indicate that the Iraqi health system has good capabilities in terms of adaptability and independence and can provide services with quality and respect for individual rights. In addition, the results show that the speed of response and the quality of equipment, with 58.94% and 55.46%, respectively, had a weaker performance. These weaknesses may be due to limitations in financial resources, structural and management issues, or other challenges facing the Iraqi health system.

In comparing the present study with similar investigations conducted in Iran, several notable distinctions can be identified. First, the health system in Iran, along with other countries, is significantly more advanced and organized compared with Iraq. Second, Iraq's health system faces severe challenges due to the impact of corruption and political issues, leading to substantial limitations. Third, there exists a notable disparity in the level of understanding and cultural awareness between Iraqis and Iranians. This difference in cultural context may result in Iraqis assigning less importance to the key dimensions highlighted in this study. Consequently, the aspects investigated in this research may not be perceived as crucial by the studied community in Iraq.

The study faced several limitations, including reluctance from certain households to participate. To address this, measures were taken to clarify the study's purpose, utilize effective communication methods, conduct in-person questionnaire completion, and respond to inquiries from household representatives. Another limitation involved households being absent during the researcher's visits, leading to the exclusion of 1 household from the sample, with another substituted if the researcher was unable to meet them after 3 visits at different times. Furthermore, the absence of a comparable study in Iraq prompted the author to compare the study results with related research, although the discussion section provided a more confined comparison with opposing studies.

The study underscored the significance of the health care system, specifically the Ministry of Health in Iraq, addressing the nonmedical needs of health service users. Enhancing the health care system in Iraq requires the establishment of mechanisms to ensure the realization of this goal in both governmental and nongovernmental service-providing organizations. Research efforts, such as the present study, offer insights into the current status of achieving this goal across various domains. The study findings advocate for an investigation into the quality of comfort facilities, urging

the development of transparent standards for evaluation in institutions delivering outpatient services. Prioritizing aspects like the right to choose, independence, and effective communication necessitates targeted and transparent programs to enhance these elements within institutions engaged in offering outpatient health services.

The study provides valuable insights into health system responsiveness in Iraq, highlighting key areas such as quality of facilities, confidentiality, and prompt attention as priorities. However, potential limitations may arise from self-reported data and cultural perceptions of responsiveness. These factors could impact the generalizability and accuracy of results, necessitating cautious interpretation and further validation in diverse settings. Addressing these limitations is crucial for enhancing the reliability of findings and informing effective health system reforms in Iraq.

### Conclusion

The study's findings indicate that the development and improvement of responsiveness areas, particularly in the areas of rapid response and essential service quality, is crucial for the health system in Iraq. This is because these areas have the potential to significantly impact the system's responsiveness. The study also highlights the importance of the type of service provider as a significant factor in responsiveness and the need for training and improvement in the performance of these providers. However, challenges such as fairness in the use of services and the provision of services to those in need still exist, which require further research in this area. These challenges may be due to factors such as limited resources, structural and management issues, or other challenges facing the Iraqi health system. To improve the situation, policies and economic and social interventions should focus on addressing these challenges and ensuring that healthcare services are provided fairly and equitably to all members of society.

### Authors' Contributions

Hayedeh Hoorsan: Study design, data analysis, manuscript writing; Amjad Mohammadi Bolbolanabad: Data analysis, interpretation of data for the work, manuscript writing; and Zainab Abodi: Data collection, data analysis, manuscript writing.

### Ethical Considerations

This study received approval from the Ethics Committee of the Research Administration at Islamic Azad University, Sanandaj branch (Approval number IR.IAU.SDJ.REC.1402.034). Data collection began after obtaining ethical approval.

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### Conflict of Interests

The authors declare that they have no competing interests.

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