Health System Responsiveness in Obstetrics and Gynecology Departments of teaching hospitals in Mashhad, Iran

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A R T I C L E I N F O	A B S T R A C T
Article type: Original article *Article History:* Received: 29-Ap-2018 Accepted: 10-Sep-2018 *Key words:* Responsiveness Inpatient Obstetrics and gynecology department	***Background & aim:*** Health system responsiveness (HSR) addresses patient`s non-medical and logical expectations. Various working conditions lead to different levels of responsiveness. No research has been conducted on the responsiveness in the obstetrics and gynecology departments. Therefore, this study was carried out to measure health system responsiveness in obstetrics and gynecology departments of teaching hospitals in Mashhad, Iran ***Methods:*** This cross-sectional study was conducted on 400 patients hospitalized in four teaching hospitals affiliated to Mashhad University of Medical Sciences, Mashhad, Iran, in 2018. A total of 400 women were selected using simple random sampling technique. The data were collected by 32-Item Health System Responsiveness Questionnaire adopted by the World Health Organization. Data analysis was performed using SPSS (version 16) through descriptive statistics, Spearman and Pearson correlation coefficients, and linear regression. ***Results:*** The total mean score of responsiveness of the participants was 53.99±20.85 (Out of 100). Furthermore, 167 (41.8%) inpatients rated responsiveness as in good level. The highest to the lowest responsiveness score was related to the confidentiality, social support networks, prompt attention, dignity, communication, basic amenities, autonomy, and choice of a provider, respectively. Based on the Pearson correlation, dignity (r_p=0.904, P<0.001), communication (r_p=0.905, P<0.001) and autonomy (r_p=0.834, P<0.001) had the highest correlation with HSR. Also a significant reverse correlation was found between age, level of education, and length of hospital stay with HSR. ***Conclusion:*** Total health system responsiveness was found to be at a good level in obstetrics and gynecology wards of the hospitals under study. Given the high correlation of HSR with dignity, communication, and autonomy in the investigated wards, hospital managers should pay more attention to these issues to make their clients satisfied.

Introduction

Health system responsiveness (HSR) is a particular concept that only involves the non-medical expectations considering service provision. In this regard, it does not include medical categories, such as the effectiveness of surgical procedures and medications (1). The HSR refers to factors focusing on the way each person is treated by health providers; furthermore, it is related to the quality of health services (2). The quality of care assessment is dependent on not only clinical and medical aspects, but also non-medical domains (3).

The World Health Organization (WHO) developed this concept in 2000 and considered it as one of the primary goals of health services development (4). In 2000, the WHO published a

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report rating 191 countries with respect to HSR. In this list, the United States obtained the first rank, while Somalia was assigned the last position; additionally, Iran stood the 100th, showing the need for more attention to HSR (2).

The HSR contains eight components (i.e., prompt attention, communication, dignity, autonomy, confidentiality, choice of provider, basic amenities, and social support) (5). Rashidian et al. (2011) noted that 90% of participants rated responsiveness as a serious issue. Their findings showed that private hospitals in comparison to governmental and charity hospitals had better performance in all domains (6).

Mousavi-Bazaz et al. (2015) found that the hospitals in Mashhad, Iran, received lower responsiveness scores in some components, such as confidentiality, vivid communication, respect to autonomy, and choice of health care providers; however, responsiveness rate was good. They also reported Overall, health care responsiveness score was higher in private than other kinds of hospitals and charity hospitals had the lowest score (1).

Ebrahimipour et al. (2013) declared that the hospitals have adequate potential to improve the different domains of their responsiveness and considered HSR as the basis for measuring performance, quality of care, and effectiveness of health systems (7). Job conditions in diverse fields vary from one place to another, and consequently lead to different levels of responsiveness. The investigation of patients' perspectives and opinions is one of the main strategies to evaluate the quality of health services, responsiveness, and satisfaction (8). This indicates the necessity of evaluating patients' viewpoint regarding HSR in all wards.

Responsiveness is becoming an essential issue in the obstetrics and gynecology healthcare system. The department of obstetrics and gynecology is one of the main areas for the maintenance and promotion of community health , as well as protection of maternal and neonatal health status (9). Based on various studies, this department involves high work pressure, which has no adverse effect on professional performance (10) . Considerable working pressure condition can reduce the level of responsiveness to non-medical needs;

however, no study has investigated this domain despite the significance of this issue.

Given the significance of the non-medical needs of the women admitted to the obstetrics and gynecology wards, they should be met immediately. Responsiveness to the reasonable expectations of these women make their hospital stay experience enjoyable and pleasant (11). Moreover, this practice has dramatic impacts on patients' well-being and comfort, thereby improving their health (1). Responsiveness to maternal needs, especially in maternity wards, leads to an easier, faster, and more enjoyable delivery (3). In this regard, Mohammadi et al. (2016) found a significant relationship between responsiveness components, especially in communication and autonomy, and patients' satisfaction (8).

The use of the eight-domain WHO responsiveness model facilitates the evaluation of the non-health aspects of the maternity health care system in Iran and identification of the issues that need to be strengthened to provide appropriate solutions. To the best of our knowledge, no study has investigated the responsiveness in the obstetrics and gynecology departments yet. With this background in mind, the present study was performed to measure HSR in obstetrics and gynecology departments of the hospitals affiliated to Mashhad University of Medical Sciences, Mashhad, Iran, in 2018.

Materials and Methods

This cross-sectional study was conducted in Mashhad in the North East of Iran in 2018. This city is known as a religious pilgrimage destination welcoming about 25 million pilgrims and tourists each year. It is the second most populous city in Iran with a population of around 3,312,090 million in 2016. Researchers preferred Mashhad to perform the study due to the accessibility of the subjects and data. The research population corresponded to all inpatients admitted to the obstetrics and gynecology departments of four teaching hospitals in Mashhad. The sample size was estimated as 420 cases by means of the one-sample population proportion formula, using previous research, with a responsiveness probability of 40.0%, type I error of 5%, power of 80%, and confidence level of 95%.

$$n = \frac{(z_{1-\alpha/2})^2\, p(1-p)}{d^2}$$

After checking the patients for the eligibility, random sampling was performed by generating random number 0 or 1 with software, which resulted in the inclusion of 422 patients in the study. The inclusion criteria were: 1) age of ≥ 18 years, 2) lack of exposure to stress or subjection to emergency procedures, 3) a minimum of two days of hospital admission, 4) ability to answer questions and communicate verbally, 5) non-performance as a medical team member, and 6) lack of a known mental illness. On the other hand, the outpatients were excluded from the study.

After granting the research approval by the Ethics Committee of Mashhad University of Medical Sciences, a recommendation letter was obtained from the given faculty. Subsequently, the participants were provided with the essential information about the research and the purpose of the study. Furthermore, they were insured about the confidentiality of their private and personal data. After checking the inclusion criteria, the data were collected using two questionnaires, including a demographic form and the 32-Item Health System Responsiveness Questionnaire by the WHO.

The WHO questionnaire evaluates non-clinical care aspects regardless of health care providers, health conditions, health systems, and country. This instrument consists of eight components, namely dignity (8 items), communication (8 items), autonomy (4 items), prompt attention (3 items), basic amenities (3 items), social support networks (2 items), choice (2 items), and confidentiality (2 items). This questionnaire is scored by calculating the percentage of the total score. The tool is rated on a four-point Likert scale (12), ranging very poor, poor, good, and very good, which are numerically scored as 0-25, 25.1-50, 50.1-75, and 75.1-100, respectively.

As developed by the WHO, this instrument was validated by the same organization for the first time. The previous studies approved the validity and reliability of the Persian version of this questionnaire. Mousavi-Bazaz et al. reported the Cronbach's alpha alpha coefficient of 0.89 for this research tool (1). Moreover, in the present study, the estimation of the reliability rendered the Cronbach's alpha coefficient of 0.96. The researchers completed the questionnaires through interview for the illiterate inpatients.

The data were analyzed using SPSS, version 16 (SPSS Inc., Chicago, IL, USA). Descriptive statistics (i.e., frequency, percentage, median, mean, and standard deviation) were applied to describe the demographic variables. Furthermore, the normality of the quantitative data was evaluated using the Kolmogorov-Smirnov test. Due to the abnormality of age and length of hospital stay, Spearman correlation test was used to measure the relationship between the variables. Median test report was also used instead of mean; however, the total HSR score was normal. Furthermore, the correlation between total score and its components was estimated using Pearson correlation test. Finally, linear regression was employed to find the most significant correlation.

Results

Out of 422 participants who met the inclusion criteria, 22 women were removed due to unwillingness to participate in the study and more than 40% missing data. According to the results, the response rate was 94.7%. Table 1 shows the basic characteristics of the research population. The HSR levels were reported as very poor, poor, good, and very good by 39 (9.8%), 128 (32%), 168 (42%), and 65 (16.3%) participants, respectively. Accordingly, most of the participants (41.8%) rated HSR as good. Table 2 presents the mean and standard deviation of total HSR and its components. The mean total score of responsiveness was estimated as 53.99±20.85. In terms of the WHO questionnaire subscales, confidentiality obtained the highest rank, followed by social support networks, prompt attention, dignity, communication, basic amenities, autonomy, and choice of provider, respectively.

Table 1. Basic characteristics of the respondents

Variables (n=400)	Number (%)
Age (years)	
Range (18-67)	
Median (IQR)	31.5 (15)
18-28	162 (40.7)
29-38	129 (32.4)
39-48	71 (17.8)
49-58	27 (6.8)
59-68	9 (2.3)
Education	
Illiterate	22 (5.6)
Primary school	46 (11.6)
Middle school	101 (25.5)
Diploma	138 (34.8)
Graduate	89 (22.5)
Length of hospital stay	
Range in day	2-60
Median (IQR)	2 (3)

Table 2. Mean scores of responsiveness dimensions

Responsiveness domains	Mean±SD
Dignity	55.52 ± 22.27
Communication	53.84 ± 25.20
Autonomy	50.44 ± 27.38
Prompt attention	55.84 ± 19.07
Basic amenities	52.66 ± 28.04
Social support networks	58.11 ± 28.20
Choice of provider	46.10 ± 29.20
Confidentiality	59.35 ± 32.11
Total HSR	53.99 ± 20.85

Table 3 tabulates the correlation between the eight components of HSR and age, education, and length of hospital stay. Based on the results of the Spearman correlation test, HSR showed a significant reverse relationship with age, educational level, and duration of hospital stay.

Table3. Spearman correlation between responsiveness components and demographic variables

Responsiveness component	Demographic variables `					
	Age		Education		Length of hospital stay	
	P-value	Spearman correlation	P-value	Spearman correlation	P-value	Spearman correlation
Dignity	<0.001	- 0.239*	<0.001	- 0.255*	<0.001	-0.258*
Communication	<0.001	- 0.215*	<0.001	- 0.180*	<0.001	-0.187*
Autonomy	0.026	- 0.112**	<0.001	- 0.180*	0.002	-0.157*
Prompt attention	0.003	- 0.148*	0.007	- 0.135*	<0.001	- 0.173
Basic amenities	0.035	- 0.106**	<0.001	- 0.173*	0.019	- 0.119**
Social support	0.002	- 0.165*	<0.001	- 0.164*	0.009	- 0.129*
Choice of provider	0.045	- 0.101**	0.016	- 0.121**	0.035	- 0.107**
Confidentiality	<0.001	- 0.174*	<0.001	- 0.178*	<0.001	- 0.185*
Total HSR	<0.001	- 0.214*	<0.001	- 0.204*	<0.001	- 0.201*

*Correlation is significant at the 0.01 level (2-tailed).
**Correlation is significant at the 0.05 level (2-tailed).

The results of the linear regression showed that just age and education contributed to the participants' response (Table 4). As the results of the Pearson correlation test indicated, the total HSR score showed the highest correlation with dignity (rp=0.904, P<0.001), appropriate communication (rp=0.905, P<0.001), and autonomy (rp=0.834, P<0.001).

Table 4. Linear regression analysis of the factors predicting HSR

Variables	Coefficients B	(95% CI)	Standardized Coefficients Beta	Sig.	Model summary
Age	- 0.592	(-.806, -.316)	0.231	<0.001	R=0.334
Education	- 4.37	(-6.163, -2.599)	0.235	<0.001	Adjusted R^2=0.104
					R^2=0.111
Length of hospital stay	- 0.130	(-.467, .201)	0.037	0.445	F=15.95
					P<0.001

Discussion

So far, no attempts have been made to evaluate responsiveness in obstetrics and gynecological departments in Iran. According to the results, the mean score of responsiveness in obstetrics and gynecological wards was at a good level. This finding is consistent with the results of a study conducted in Thailand in the delivery room. In the mentioned study, most of the women reported a high rate of responsiveness, which was directly connected to a higher level of satisfaction (3). In a study performed by Mousavi Bazzaz et al. (2015) in the wards of both teaching and non-teaching hospitals in Mashhad city, the overall responsiveness mean score of both kinds of hospitals was at a good level (1).

However, the results obtained by Forouzan et al. (2016) showed that 47% of the participants ranked mental healthcare responsiveness as poor. This discrepancy might be due to the difference in the sampling place and measurement of different types of responsiveness (13). Given the important role of women in society, attention to their health and well-being could have positive effects on family and community. Based on the evidence, responsiveness in obstetrics and gynecological wards results in women's satisfaction, and therefore health outcomes (3, 14). Although the total score was at a good level, some domains need to be improved.

In the present study, the confidentiality of the patient's information was obtained as the best responsiveness score, while having power for choosing care provider was found to have the lowest score in this regard. This finding is in line with the results of several studies carried out in Iran and other countries (5, 15-18). This shows that patients have a positive view about their privacy and confidentiality of information, and that they can easily discuss their problems with health providers.

In the current study, the choice of provider obtained the lowest rate by the participants. This is in line with the results of the studies assessing the importance of each responsiveness domain in which the patients rated this item as the less important aspect (3, 19).

In general, it is not common to choose the therapist in most of the countries due to the uncertainty of the patients about themselves and their lack of awareness to choose their health provider (18, 20). Liabsuetrakul et al. (2012) observed a significant relationship between all seven responsiveness components and patient satisfaction in the maternity wards of some hospitals in Thailand. However, they detected no significant association between patient satisfaction and choice of care-provider. The explanation for this was the awareness of women in Thailand about the health system rules of hospital in which they are not allowed to pick any special therapist (3).

In the current study, while confidentiality, social support networks, and prompt attention were ranked as very good, total HSR score showed the highest correlation with dignity, communication, and autonomy.

Dignity is one of the essential principles of humanity. Caregivers who work with patients should try to preserve their dignity (21). All human beings need to be respected; however, patients are the most vulnerable social groups; therefore, they need special consideration and

respect. If the dignity of the patients is maintained, they can make decisions about their healing process (22).

In the studies performed by Mohammadi and Kamali (2014) and Rashidian et al. (2011), participants ranked dignity as the most essential domain (15). Communication skills are considered as the most important aspect for those working in the healthcare services (23). The establishment of an effective communi-cation with the patients facilitates the accurate identification of their problems, higher patient satisfaction with care, and recognition of possible therapeutic options, better admission and treatment procedure, and ultimately reduction of patient's stress and anxiety (24).

In a study performed by Zarei, dignity, communication, and confidentiality demon-strated the highest correlation with HSR (18). Similarly, in a study conducted by Liabsuetrakul et al. (2012), prompt attention, dignity, clear communication, autonomy, basic amenities, confidentiality, choice of provider, and social support were respectively rated as the prioritized domains of HSR (3). The relationship of responsiveness with age, education, and length of hospital stay varies depending different target groups. In the present study, the areas with the highest correlation with three demographic variables were dignity, appropriate communication, and autonomy, respectively.

Considering the inverse correlation between responsiveness score and participant's literacy, educated people gave a lower score to HSR. In linear regression, the level of education was the only variable that maintained its correlation with responsiveness. This finding is consistent with the results of some studies. Fazaeli et al. (2016) demonstrated that graduated patients evaluated outpatient services with a lower score, especially in prompt attention and communication domains (25). Mohammadi and Kamali (2014) also showed that the mean score of dignity, communication, autonomy, and overall responsiveness would vary based on literacy level; in this regard, the enhancement of education level decreased the mean score of these items (15). In contrast, Ebrahimpour et al. (2013) and Mousavi Bazzaz et al. (2015) found no significant difference among the different levels of education in terms of rating the

responsiveness components. In many studies, the concept of responsiveness has been shown to have association with patients' rights (4, 26, 27). Educated people know more about their rights; therefore, they have higher expectations (27). As a result, the patient's unawareness of his/her rights can affect his/her evaluation, which leads to a higher assessment of reality.

In the present study, there was a negative correlation between age and HSR score. In this respect, young patients rated responsiveness at higher levels, and this can be explained by the lack of awareness about their rights. Since most of researchers evaluate both genders in their studies, they failed to find a significant relationship between these two variables (1). However, there was a significant association between these two variables in our study and another research conducted by Liabsuetrakul (2012) in obstetrics and gynecology wards (3).

The elongation of hospital stay results in the rise of patients' expectations for more care, attention, and treatment. Therefore, they rate responsiveness at a lower level. Furthermore, a long-term hospital stay causes patients to feel bad about their condition and think that their illness is so severe that they have to have a long hospital stay, which adds to the patient's anxiety and sadness. Under this condition, the patients' view about the hospital would deteriorate each day and lead to the under evaluation of responsiveness score (18).

Since the majority of the studies focus on evaluating the medical side of clinical care, the main strength of the present study is the evaluation of non-medical care factors, which are the neglected aspects of healthcare services. However, this study also contains a number of limitations. First, given the cross-sectional design of the study, the mean score of HSR domains varied overtime; as a result, the relationship between factors and HSR could not be established.

Secondly, despite giving assurance to the patients about the confidentiality of information, some participants might not tell the truth or answer the questions truly about the different factors of responsiveness due to the fear of not receiving good healthcare services later. Thirdly, outpatient service users were not included in this study, and the findings are only limited to

inpatients. Finally, non-teaching hospitals were not evaluated in this study. Therefore, it is better to compare HSR in teaching and non-teaching hospitals in the future studies.

It is recommended to perform further studies using a qualitative design to better define each domain of HSR. This study could be a baseline for planning a monitoring system and evaluating each HSR domain in different wards and hospitals. Therefore, it is essential to direct attention toward the domains requiring promotion to enhance the quality of services.

Conclusion

In conclusion, it is important to pay more attention to non-medical aspects in providing healthcare services at hospitals. Responsiveness can be helpful for any programs attempting to improve the quality of healthcare services. Total non-medical responsiveness components of hospitals in obstetrics and gynecology wards were rated as good. However, several items, including having the right to choose health care provider, having autonomy for participating in healthcare decision-making process, and giving opinion about basic amenities (e.g., cleanliness, adequate space, good ventilation, and healthy foodneeded) needed to be improved.

Since the patients' evaluation of HSR in the investigated ward had the highest correlation with dignity, communication, and autonomy, hospitals should pay more attention to these factors to make their clients satisfied. This study suggests that policymakers need to pay attention to responsiveness as a factor for the quality of health care system. Responsiveness can be a useful tool for evaluating the performance of midwives and gynecologists, beside healthcare system.

Policymakers should pay more attention to the domains of responsiveness that need improvement in all departments. Responsiveness items should be taught to the healthcare providers and policymakers should make these trainings as compulsory education for in-service training. Furthermore, policymakers should provide an opportunity to publicize guidelines to inform patients about their rights, responsiveness domains, and cases of violation of their rights.

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Conflicts of interest

The authors declare no conflicts of interest.

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