

## Health system responsiveness after health sector evolution plan (HSEP): An inpatient survey in Kermanshah in 2015

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### Abstract

**Background:** Responsiveness is one of the three main goals of the health system introduced by World Health Organization. This study aimed at examining health system responsiveness after Health Sector Evolution Plan in Kermanshah, Western Iran.

**Methods:** A sample of 335 hospitalized patients was selected using proportionate allocation to population size method in the city of Kermanshah (Iran) in 2015. World Health Survey (WHS) questionnaire was used to collect data. Data were analyzed using descriptive statistics and principal component analysis by STATA 12.

**Results:** The overall health system responsiveness score was 72.6. The best and worst performance for domains of dignity and autonomy were 82.2 and 62.5, respectively. Socio-demographic variables of the patients had no significant effect on the total health system responsiveness score. The principal component analysis findings indicated that 68% of the variance of the overall responsiveness score was explained by four components.

**Conclusion:** The overall responsiveness score of each of the domains was higher than that of other similar previous studies in Iran. Although it is difficult to reach a conclusion, our findings may show better responsiveness of the health system compared to the previous reports.

**Keywords:** Health System Responsiveness, Health Sector Evolution, Inpatient Care, Iran.

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### Introduction

Measuring performance of health systems is an essential tool for health policy-makers to conduct analysis and track change. Such measurements can improve healthcare delivery in every country (1). The 2000 World Health Organization (WHO) report reflects that promoting health status, fairness in financing and responsiveness are the three main goals of evaluating health system performances (2). Responsiveness refers to the ability of a health system to respond to the legitimate expectations of the population; this is associated with the non-medical as-

pect of the health system and environment in which the people are treated (2,3). "Respect for human right" and "client-orientation" are two broad categories of responsiveness. Furthermore, respect for human right consists of dignity, autonomy, communication and confidentiality (2,4). Client orientation includes prompt attention, quality of basic amenities and access to social support networks as well as choice of provider. In 2000, Iran's health system was ranked 100th in terms of responsiveness (2,5). Prompt attention and dignity were the most important domains of re-

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sponsiveness of health systems for the Iranian populations (6). Besides, urgent and special attention was recommended to improve the responsiveness of the health system (7,8).

In a survey on health system responsiveness in Tehran, more than 90% of the households believed that responsiveness was very important (5). In addition, it was reported that responsiveness was better for outpatient care than inpatient care (9). Most of the studies on health care responsiveness have focused on household survey, and only a few studies were conducted to address the responsiveness of a health system to inpatient care (5,6,10,11). Moreover, there is a gap in the concerning patients' views on health system responsiveness in Iran.

The 11th government, elected in June 2013, took health as the top priority of its administration and has been implementing a Health Sector Evolution Plan (HSEP) since May 6, 2014 (12). HSEP is a national plan, with two main phases: the first phase relating to improving fair access to healthcare and quality of inpatient and outpatient care in hospitals and the second to the public health care (13). HSEP aimed to provide the followings: health insurance coverage to all uninsured individuals, reducing out-of-pocket expenses for inpatient services, providing financial protection of patients with specific diseases and poor patients, encouraging medical doctors to stay in deprived areas through motivational policies, improving quality of care through increasing specialists, and improving hospital amenities and lodging services (13,8). This study aimed at examining the effect of HSEP on health system responsiveness in Kermanshah, Western Iran. The findings may contribute to improvements in the responsiveness of the health system in this area of Iran.

## Methods

### Data

This was a cross-sectional study conducted on the responsiveness of the hospitals in admitted patients in Kermanshah in 2015.

The city has seven public university hospitals with a total number of 1,570 active beds and two private hospitals. Data were collected from six public university hospitals with the exception of the seventh university hospital, which was a psychiatry hospital. The Ethics Committee of Kermanshah University of Medical Sciences approved the study protocol.

A sample of 335 patients was calculated using the formula for single population proportion at 50% proportion of responsiveness (as no evidence was available from similar studies in the area), 5% level of significance and 0.05 margin of error. The proportionate allocation to population size technique was employed to collect data from each hospital. At least three days hospitalization by a patient and age above three years were the inclusion criteria whilst patients who refused to participate or admission in intensive or critical care units were excluded.

### Instrument

Data were collected using standard World Health Survey (WHS) questionnaire, which was developed by World Health Organization (WHO). This questionnaire is a valid, reliable and comparative instrument that contains questions about the 'importance of responsiveness domains from an inpatient's point of view', 'health services utilization' and 'people's view about the responsiveness domain of inpatient services' (14). Rashidian et al. determined the validity and reliability of this questionnaire (5).

Items in each component of responsiveness were as follows: prompt attention (2 Items); communication (2 Items); human gentility and dignity (2 Items); patient's participation in decision-making and autonomy (2 Items); confidentiality and trust (2 Items); choice of provider (1 Item); quality of basic amenities (2 Items); and access to social support (2 Items). In this study, responsiveness of the hospitals was considered as a dependent variable while the socio-demographic variables of the patients were the independent variables. We

used a five-point Likert scale where 5 was very important/very good, and 1 represented least important/very poor. The responsiveness score for each domain was obtained by dividing the sum of the scores within the domain by the number of items in the Likert scale. The higher score in the Likert scale indicated better responsiveness. Data were collected starting from mid- June 2015 to mid-August 2015.

### Statistical Analysis

The STATA Version 12 statistical package was used to analyze the responses of a five-point Likert scale data. The frequency distribution, ranges and mean (SD) were used to describe the data. The principal component analysis (PCA) was utilized to

extract the main factors affecting the health system responsiveness. Sample adequacy was considered appropriate by Kaiser–Meyer–Olkin test value at 0.798 and Bartlett test ( $p=0.001$ ). Similar to another study in Iran (5), we used 0.4 and above as a cut-off for factor loading in the PCA. The overall relationship between the socio-demographic variables and health system responsiveness was checked by Chi-square test.

### Results

Three hundred thirty five, 190 (56.7%) male and 145 (43.3%) female, patients with the mean (SD) age of 41.5 (2.36) yrs. and the age range of 3-92 yrs.were included in the study. Of the respondents, 92.8% had

Table 1. Socio-demographic Characteristics of Patients Admitted to the Public Hospitals in Kermanshah, Western Iran, 2014 (n=335)

Variables	n (%)	Variables	n (%)
Gender	Male 199(56.7) Female 145 (43.3)	Insurance cover	Yes 311(92.8) No 24(7.2)
Age	<15 57(17) 16-30 65(19) 31-45 61(18) 46-60 69(21) >61 83(25)	Marital status	Single 110(32.8) Married 200(59.7) Other 25(7.5)
Level of education	Illiterate and primary school 199(59.4) Middle And high school 92(27.5) Academic 44(31.1)	Employment status	Employed 264(78.8) Unemployed 71(21.2)
Geolocality	Urban 248(74) Rural 87(26)	Length of stay (LOS)	3-5 days 229(68.3) 6-14 days 73(21.8) >15 days 33(9.9)

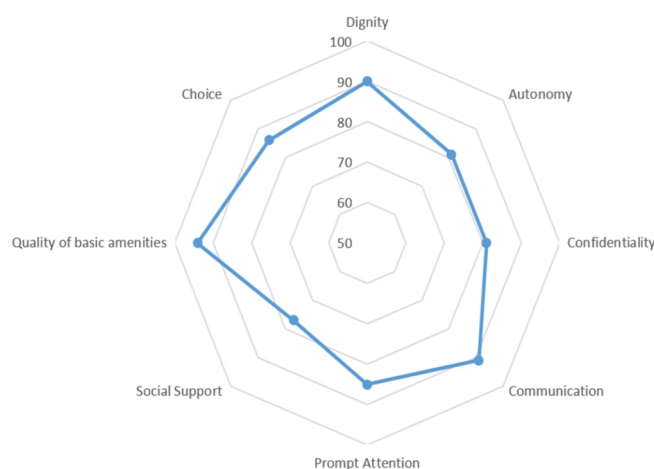


Fig. 1. Proportion of the participants who rated the responsiveness domain as important/very important

health insurance coverage, and 44.7 % were illiterate (Table 1).

The respondents' rank on the level of importance of the health system responsiveness based on the domains of the responsiveness questionnaire is shown in Fig. 1. The proportion of patients who rated the responsiveness of the hospitals as important or very important based on quality of the basic amenities, communication and dignity domains accounted for 94%, 91% and 90%, respectively. The social support domain was considered as the least domain as only 77% of the patients rated this domain as important or very important.

The mean performance of each domain of the health system responsiveness is shown in Table 2. The findings revealed that the overall health system responsiveness was 72.6. The best and worst performance for domains of dignity and autonomy were 82.2 and 62.5, respectively.

The principal component analysis findings are presented in Table 3. The findings indicated that 68% of the variance of the overall responsiveness score was explained by four components. The first component which contained communication, dignity

and autonomy explained 31.4% of the variance; the second component contained confidentiality and social support and explained 17.6 % of the variance; the third component contained quality of basic amenities and choice domain and explained 11% of the variance and the fourth component contained dignity domain only and explained 8% of the variance.

The empirical analysis revealed no significant association between total health system responsiveness scores and gender, education, age, health insurance coverage, and working status of the respondents.

### Discussion

This study was the first of its type after Health Sector Evolution Plan (HSEP). The aim of this study was to describe health system responsiveness in Western part of Iran. However, several studies have been conducted on health system responsiveness before HSEP elsewhere (5,10,11,16). Responsiveness of the health system is the result of interactions between health system agents and the patients (16), which is related to the patient's well-being (17). The well-being of the patients is influenced by

Table 2. Mean responsiveness score of each domain and its items

Domains and their items	Mean responsiveness score	Domains and their items	Mean responsiveness score
Dignity	82.2	Confidentiality	79.2
Being greeted and talked to respectfully	82.1	Talk privately to health care providers	79.6
Privacy during physical examinations and treatments	82.3	Confidentiality of personal information	78.8
Prompt attention	72.2	Choice	68.1
Traveling time	73.2	Freedom to choose health care provider	68.1
Waiting time	71.2	Quality of basic amenities	74.2
Communication	74.1	Cleanliness of the rooms including toilets	74.7
Clarity of the provided explanations	73.6	Space in the waiting and examination rooms	73.7
Time to ask questions about health problem/treatment	74.6	Social support	68.4
Autonomy	62.5	The ease of having family and friends visiting	70.9
Being informed about other types of treatments/tests	63.1	Staying in contact with the outside	65.9
Being involved in making decisions about care	61.9		
Total responsiveness: 72.6			

Table 3. Results of the Principal Component Analysis (PCA) for Health System Responsiveness

Domains and their items	Components			
	1	2	3	4
Dignity				
Being greeted and talked to respectfully	0.80	0.04	-0.05	0.67
Privacy during physical examinations and treatments	0.65	0.07	-0.06	0.49
Prompt attention				
Traveling time	0.16	0.06	-0.12	0.12
Waiting time	0.24	-0.15	0.21	0.27
Communication				
Clarity of providers explanations	0.64	-0.27	0.01	-0.27
Time to ask questions about health problem/treatment	0.59	-0.19	0.08	0.18
Autonomy				
Being informed about other types of treatments/tests	0.54	-0.09	0.27	-0.03
Being involved in making decisions about care	0.63	-0.06	0.10	0.01
Confidentiality				
Talking privately to health care providers	0.22	0.62	0.03	0.26
Confidentiality of personal information	0.25	0.68	-0.01	-0.13
Choice				
Freedom to choose health care provider	0.11	0.05	0.49	0.18
Quality of basic amenities				
Cleanliness of the rooms including toilets	0.23	0.14	0.78	-0.10
Space in the waiting and examination rooms	0.09	0.21	0.71	0.22
Social support				
The ease of having family and friends visiting	0.14	0.57	0.16	-0.06
Staying in contact with the outside	0.16	0.53	-0.15	-0.13

health system and the health system's responsiveness to the patients (18).

Quality of basic amenities, dignity, communication and prompt attention received higher scores in terms of importance. These findings were similar to the reports of other previous studies (5,6,10,19,20). This implies that from patient's point of view, these domains are more important than other domains of responsiveness. In addition, compared to previous studies in Iran, patients kept their preferences about responsiveness domains.

In this study, the overall responsiveness score was 72.6. The mean performance of each domain of the health system responsiveness was not much different except for autonomy that was rated the least. In another study that assessed the responsiveness of hospitals to inpatient care in Zanzibar reported an overall responsiveness score of 58.4 (10). Similarly, Karami-Tanha et al. found hospital responsiveness score of 57 to patients with heart failure (15). Furthermore, a household survey on responsiveness of health systems to outpatient and inpatient services in Tehran reported 70.6 responsiveness score (5). Generally, the overall score of responsiveness of the hospitals to

inpatient services in our study was higher than the scores reported in previous studies in Iran. Besides, hospital responsiveness scores in our study were higher than the scores reported in studies elsewhere (9,21,22), but lower than the scores reported in Germany (23).

In this study, dignity, confidentiality, and quality of basic amenities had the best performance. This finding is in line with the reports of several studies (11, 15, 17, 18), and with that of Rashidian et al., but the quality of basic amenities in their report was the second worst performance (5). In previous Iranian studies, social support/confidentiality/ dignity (11), dignity/confidentiality/ prompt attention/ (5), dignity/ confidentiality/ prompt attention (15) confidentiality/ communication/prompt attention (10) were reported as the best performing domains. Unlike our study, a study in China reported social support to be the best performance domain (24). Confidentiality and dignity domains achieved highest scores in the health system of Iran before and after HSEP. In addition, a high score in the quality of basic amenities means that the rooms in the hospitals were clean and there were enough waiting and examination

rooms. In fact, after HSEP, public hospital rooms were renovated and lodging and welfare equipment were purchased (12). In this study, the autonomy domain had the worst performance score followed by choice domain. This finding is similar to the findings reported in several other studies (5,10,15,22,23). In the above-mentioned study of Iran, autonomy/ quality of basic amenities (5), autonomy/ communication (11), choice/ autonomy (10), and autonomy/choice received the least score (15). In this study, performance of hospitals with respect to communication, prompt attention, social support, choice and autonomy were rated 4<sup>th</sup> to 8<sup>th</sup>, respectively. Therefore, providing training for the health care providers and improving their knowledge is necessary to achieve a higher score in the autonomy and choice domains.

In this study, the principal component analysis revealed that responsiveness for inpatients care included communication dignity/ autonomy, confidently/ social support, and lastly quality of basic amenities/choice as the main factors. In a study conducted in Taiwan, five factors of respect, access, confidentiality, basic amenities and social support were extracted. These five factors revealed acceptable internal consistency, four of which were significantly correlated with the overall responsiveness score (25). In other studies, communication, autonomy and confidentiality were the main factors (5,21). While the majority of the above-mentioned reports included both inpatient and outpatient cares, this study was limited to inpatient care and university hospitals.

### Conclusion

This study indicated a high rate of overall responsiveness score of each of the domains compared to other similar previous studies in Iran. Although it is difficult to reach a conclusion, our findings may show better responsiveness of the health system than the previous reports. The relatively higher responsiveness of the hospitals in the "Quality of basic amenities" domain

may be a direct result of huge resources use that was allocated to the hospitals during HSEP. Finally, improvement in "Client-oriented" domains of health system responsiveness such as quality of basic amenities and prompt attention may require large investments and additional resources, while improvement in "Respect for human right" domains such as dignity and confidentiality require minimal resources and investment.

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