Original Article

Health System Responsiveness: A Case Study of General Hospitals in Iran

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ABSTRACT

Background: Considering patients' needs and expectations in the process of healthcare delivery improves the quality of services. This study aimed to investigate the responsiveness of general public and private hospitals in Mashhad, Iran.

Methods: In this cross-sectional and explanatory study, hospitalized patients (with at least 2 days of stay) in general private and public hospitals in Mashhad were investigated. In total 425 patients (259 from private and 166 from public hospitals) were selected using a stratified and simple random sampling. Standard responsiveness questionnaire was used as the data collection tool. Data were analysed using descriptive statistics, independent t-tests and ANOVA by SPSS 16 at a significance level of 0.05.

Results: Access to the social support during hospitalization as well as confidentiality of the patient's information achieved the highest score (3.21 ± 0.73) while the patient participation in decision-making process of treatment received the least score (2.34 ± 1.24). Among the research population 1.6%, 4.1%, 17.6%, 63.3% and 13.2% commented on the responsiveness level as very low, low, moderate, good, and excellent, respectively. There was no significant difference between the overall responsiveness scores of public and private hospitals ($P \geq 0.05$).

Conclusion: The hospitals have enough potential to improve various aspects of their responsiveness. We suggest a number of measures can help improve the non-clinical aspects of care. These include: using educational courses to improve the knowledge and attitudes of medical and nonmedical staff, changing the resource allocation method, and using quality tools such as reengineering to modify the healthcare delivery processes.

Background

Customer orientation is one of the main components of hospital quality initiatives. Patient's opinion, personnel and patient satisfaction and their expectation are some issues, which considerably improve the quality of health care services (1-3). Responsiveness is seen as a key strategic characteristic for effective health systems (4). It is related to the system's ability to address the legitimate fulfillment of customer non-medical expectations while interacting with health system; including the way individuals are treated and the environment surrounding them (5-7).

WHO's review of the patient satisfaction and quality of care literature led to the identification of eight domains of responsiveness, which were comprehensive, amenable to self-report, and comparable within and across populations (8). Responsiveness domains are divided into interpersonal domains (dignity, autonomy, communication and confidentiality) and structural domains (quality of basic amenities, choice, access to social support networks and prompt attention) (9).

Results of a household survey in Tehran shows that more than 90% of respondents ranked responsiveness as very important issue (8). Other findings indicate that responsiveness in outpatient services is better than inpatient services (10). In Pakistan, patients prefer private hospitals to public because of better experiences in terms of confidentiality, autonomy, involvement in decision making, communications and sanitation (11). In China,

health system responsiveness in the inpatient services is much better than the outpatient services. Observing dignity, respecting the patient and immediate action and attention are also considered as the strong points of the healthcare service delivery in China. Socio-economic disparities exist in the health system responsiveness, irrespective of the type of health public and private facility used (12). Differences in responsiveness level are reported by socio-demographic characteristics (10). It is believed that the aged population will put the health systems under pressures, and governments should use responsiveness to guide policy and system improvement efforts when resources are limited (10).

Studies further indicate that patient's experiences are most likely associated with health outcomes (13). In addition, human rights laws strongly emphasize on non-medical aspects of health services (14). In world health report 2000, health systems of 191 countries were ranked in a scale of 1 to 10 in terms of responsiveness. In this ranking Iran is in the 100th place, representing the need for special attention. Therefore, Iran's Ministry of Health has considered the issue of responsiveness in the health care system in the third, fourth and fifth long term developmental plan of the country (15). This was the only estimation available about responsiveness in Iran (8) and no more studies has been conducted yet. The current study aims to fill this gap by investigating responsiveness in general public and private hospitals.

Methods

This cross-sectional and explanatory study was performed in 2012, investigating hospitalized patients (at least for 2 days) in all general private and all public hospitals (2 private and 2 public hospitals) as a research society. In total a number of 425 patients (259 from private and 166 from public hospitals) were selected using a stratified and simple random sampling. Samples were devoted based on the total numbers of beds in each hospital. Data were collected during hospitalization using standard 36-item questionnaire (16) consisting of demographic data (5 Items) and eight components of responsiveness. Items in each component include prompt attention (3 Items), communication (7 Items), human gentility and dignity (8 Items), patient's participation in decision making and autonomy (4 Items), confidentiality and trust (2 Items), choice of provider (2 Items), quality of basic amenities (3 Items), access to social support (2 Items). The five-point Likert scale (strongly agree, agree, moderate, disagree, and strongly disagree from 4 to 0) was applied. We defined the 0-0.8 scores as very low, 0.9-1.6 low, 1.7-2.4 moderate, 2.5-3.2 good and 3.3-4 as excellent responsiveness (16). The validity and reliability of the translated version of the questionnaire has been confirmed in the previous study (16).

Attending the hospital, researchers collected data after explaining the study purpose for participants and getting informed consents. In the case of the patient inability to answer the questionnaire (3.76% of total cases), the patient companions were asked to perform on their behalf.

All inpatient wards were included expect ICU and CCU. Data were analysed using descriptive statistics (frequency, percentage, mean, and standard deviation), independent *t*-test and ANOVA using SPSS 16 (SPSS Inc., Chicago, IL, USA) at a significance level of 0.05.

Mashhad city (located in North East of Iran) was selected as the researchers were based at this city and access to data was easy for them. In addition, Mashhad is among the biggest cities of the country with a population about 3 million and accommodating around 20 million pilgrimages each year. Majority of patients coming from North East and East parts of the country are referred to Mashhad tertiary hospitals.

Results

Among the study population (425 patients), 408 (96%) were patients and 17 (3.76%) of them were their companions (response Rate 95%). Table 1 summarizes the basic demographic data of the study population. The mean age of the study population was (40.4 ±1.7) and (41.7±1.7) respectively in private and public hospitals. Also, the average length of stay (LOS) in private hospital was (2.5±1.3) and in public hospitals was (6.3 ±8.1).

Table 2 shows the overall responsiveness score mean (2.66±0.05). In the private and public hospitals, the overall responsiveness score was 2.67±0.58 and 2.66 ±0.57 respectively with no significant difference (*P* ≥0.05). This table also shows that the access to the social support mean scores in private and public hospitals was 3.37 ±0.67 and 3.11±0.76 respectively. Confidentiality mean scores were 3.20±0.90 in private and 2.94±0.90 in public hospitals. Results showed a significant difference between private and public hospitals in communication, autonomy, confidentiality, choice and social support (*P*≤ 0.05).

Finally, 1.6%, 4.1%, 17.6%, 63.3% and 13.2% of respondents ranked the responsiveness as very low, low, moderate, good, and excellent, respectively. In addition, there was a statistically significant difference between responsiveness scores and age groups and different LOS period. There was no statistically significant differences between different level of education and different genders and responsiveness scores (*P*≥ 0.05).

Discussion

This cross-sectional explanatory study   aimed to investigate the responsiveness in general hospitals in Mashhad. The total responsiveness mean was 2.66 (±0.05) which shows that the responsiveness is satisfactory. There is no statistically difference in responsiveness between males and females and between private and public hospital. This finding is not consistent with the result of a study in Turkey, in which females found health system less responsive than males (19). This difference could be related to the fact that studied public hospitals have sophisticated technologies and human resources resulting these hospitals more responsiveness. Also the implementation of some quality initiatives in the public hospitals, such as clinical governance and EFQM, may improve the responsiveness in the public hospitals.

The results revealed no significant difference between private and public hospitals. Other studies conducted in Iran (Tehran and Isfahan) and South Africa showed a lower responsiveness rate in public hospitals than private (8,16,17). A study in Thailand shows that the components

Table 1. Demographic characteristics of the study sample

Variable		Public		Private		Total	
		N	%	N	%	N	%
Gender	Female	143	58.6	101	41.4	244	57.7
	Male	113	63.1	66	36.9	179	42.3
Age	< 12	10	62.5	6	37.5	16	3.8
	12-25	39	55.7	31	44.3	70	16.5
	26-35	54	60.0	36	40.0	90	21.3
	36-45	48	60.0	32	40.0	80	18.9
	> 45	106	63.5	61	36.5	167	39.4
Level of Education	Illiterate	50	74.6	17	25.4	67	16.1
	Primary school	43	63.2	25	36.8	68	16.4
	Middle school	48	69.9	21	30.4	69	16.6
	Diploma	64	59.3	44	40.7	108	26.0
	Graduate	44	42.7	59	57.3	103	24.9
Length of stay((LOS) (days)	2-4	170	52.8	152	47.2	322	76.3
	5-9	40	74.1	14	25.9	54	12.8
	10-14	13	100	0	0.0	13	3.1
	15 and 15≤	33	100	0	0.0	33	7.8

of responsiveness influence the women's decision in choosing public or private maternity hospitals (18). This inconsistency could be related to the fact that hospitals under study had no real differences in terms of amenities and facilities and most of the time the public teaching hospitals are equipped, with more sophisticated technologies and human resources than private ones.

In this study patients ranked access to the social support as excellent which is consistent with findings of another study in Isfahan (16). The mean score of private hospitals was significantly higher than public, which could be related to the fact that private hospitals provide more family-friendly and convenient visiting hours. This finding is valuable, since social support is a very important factor in treatment process and patient's recovery (11). Access to social support was significantly higher among females in this study which could be related to the difference between social relationship pattern among males and females. Access to social support is more important when people face negative events such as hospitalization.

Today, health systems try to value patient rights such as providing information and participating in decision making (14). In our study, patients in private hospitals were more aware of their rights to choose services and providers, and to involve in decision making for their treatment. This finding indicates the increased knowledge and capabilities of patients to choose their providers and is consistent with other study findings conducted in Iran (16) and Europe (4).

In the present study, respect to patient's dignity was higher in private hospital, although it was not significantly different from public hospitals. Whitehead believed that dignity has six key dimensions including privacy, confidentiality, communication and the need for information, choice, control and involvement in care, respect and decency and forms of address (20). It is recommended to explore the concept of dignity from the patient's perspective in a qualitative research because the dignity concept could have different meaning in different cultural environment. Dignity is also affected by patient's feelings such as self-esteem and self-respect.

Results of this study showed a significant difference between private and public hospital from the communication perspective. This fact could be related to some quality intervention introduced by policy makers such as implementing clinical governance, and some other quality initiatives, in some hospitals in the recent years. The proper communication between patient and therapist has been always considered as one of the most important factors of satisfying the patient and perceiving services utility. In Europe, patients stated that physicians listen to them carefully and spend enough time to respond and give clear explanations to them. In Swiss and England, patients have been highly satisfied with communication skills of physicians and service This is reported low in Netherlands (4) and a major concern in Taiwan (21).

There is not much information on differences and similarities of physician-patient communication patterns in different cultures, but in a study, patients stated that communication, respect and paying attention to the patient include important elements such as empathy, attention, independence, information array, recognition of patient, dignity and considering needs. Communicating with patient and paying attention to them are criteria with multiple dimensions just more than considering patient's independence (22). Communication issue should be included in medical education programs to educate physicians and medical staff on appropriate communication skills.

Researchers found that "waiting time, and immediate action and attention", is related to patients' satisfaction. Long waiting time and reduced immediate action and attention cause the patients to prefer private hospital. Ignoring this issue can lead to negative and cynical attitude towards the system even before receiving the actual service (23). Prompt attention to patients and their expectations have been the strong points of health care system in Pakistan (11). The limited resources and high number of patients are among the reasons of dissatisfaction in public hospitals. But prompt attention and quality of basic amenities received low score for outpatient services in Tehran (8).

Table 2. Comparison of Responsiveness dimensions mean scoresbased on demographic variables

Responsiveness Dimension	Private/Public			Gender			LOS					Total
	Private	Public	P	M	F	P	2-4	5-9	10-14	15<	P	
Immediate action and attention	2.66 (±0.84)	2.71 (±0.89)	0.59	2.59 (±0.90)	2.76 (±0.85)	0.45	2.78 (±0.83)	2.62 (±0.85)	2.33 (±0.89)	2.11 (±1.06)	≤0.001	2.69 (±0.87)
Communication	2.64 (±0.78)	2.49 (±0.74)	0.04	2.52 (±0.78)	2.57 (±0.74)	0.54	2.59 (±0.72)	2.51 (±0.82)	2.50 (±0.69)	2.19 (±0.92)	0.04	2.55 (±0.76)
Patient's dignity	2.71 (±0.58)	2.75 (±0.53)	0.49	2.69 (±0.46)	2.76 (±0.60)	0.23	2.73 (±0.51)	2.82 (±0.56)	2.91 (±0.48)	2.55 (±0.80)	0.09	2.73 (±0.55)
Autonomy	1.93 (±1.24)	2.61 (±1.17)	≤0.001	2.29 (±1.30)	2.38 (±1.20)	0.46	2.41 (±1.21)	2.31 (±1.31)	2.44 (±1.50)	1.73 (±1.21)	0.30	2.34 (±1.24)
Confidentiality	3.20 (±0.90)	2.94 (±0.90)	>0.001	2.92 (±1.01)	3.13 (±0.82)	0.02	3.08 (±0.84)	3.19 (±0.70)	2.76 (±1.28)	2.51 (±1.41)	>0.001	3.04 (±0.91)
Choice of provider	2.68 (±0.93)	2.48 (±1.10)	0.05	250 (±1.06)	2.61 (±1.02)	0.30	2.66 (±0.91)	2.40 (±1.21)	2.11 (±1.67)	1.98 (±1.34)	0.001	2.56 (±1.04)
Quality of basic amenities	2.73 (±0.81)	2.58 (±0.85)	0.08	2.60 (±0.79)	2.65 (±87)	0.54	2.75 (±0.75)	240 (±0.90)	2.64 (0.55)	1.87 (±1.01)	≤0.001	2.63 (±0.84)
Access to social support	3.37 (±0.67)	3.11 (±0.76)	≤0.001	3.07 (±0.77)	3.30 (±0.69)	>0.001	3.24 (±0.66)	3.27 (±0.88)	3.29 (±0.62)	2.78 (±1.06)	>0.001	3.21 (±0.73)
Overall score of responsiveness	2.67 (±0.58)	2.66 (±0.57)	0.94	2.61 (±0.58)	270 (±0.57)	0.13	3.97 (±2.72)	2.64 (±0.6)	2.61 (±0.64)	2.23 (±0.74)	≤0.001	2.66 (±0.05)

The quality of basic welfare facilities not only affects the patient's comfort, but also is associated with the feeling of promoting health, well being and acceleration in recovery processes. Studies have shown that there is a wide gap between patients' needs and access to basic desired amenities even in developed countries around the world. Undesirability of these facilities may put the patient and his companions at risk (23). In our study, there were no differences between studied hospitals in terms of quality of basic amenities. In the Peltzer's study, the private hospitals has better condition in term of quality of basic amenities and this factor got the highest scores among different responsiveness dimensions (17). This finding could be related to the fact that most of the patients hospitalized to the public hospital are from the lower socio-economic status and may have less expectation.

The demand of health services in private hospitals is increasing because of the certain factors such as better amenities and facilities provided to the patients. In Javadi's study, nurses have considered facilities of health care centers as the most important weakness of hospitals. In Romania, most patients were dissatisfied with the environment hygiene, dirty services (rest room), wards and patients' rooms (16,24). Allocating rooms, facilities to patient and pleasant surroundings may play an important role which can make hospitals more responsive especially in general public hospitals.

This study had some potential limitations that may affect the results. Some respondents may have not expressed their true opinions in some areas due to fear of negative effect on their received services. In addition, considering the fact that the study hospitals are not the real sample of Iranian society, we should cautiously generalise results of this study to other hospitals in the country. A percent of questionnaires were filled out with patient's companions that their view may be different with patients.

Conclusion

Communication and autonomy were identified as priority areas for actions in this study. Responsiveness is a valuable contribution to all programs that aim to improve the quality of health care services. Designing framework, coordinating policies and procedures using international experiences and local viewpoints can incorporate to make health system more responsive. Improving quality of services, training staff, improving knowledge and attitudes of patients and medical staff, better allocation of resources and re-engineering of some processes can improve responsiveness.

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Ethical issues

This study was approved by the ethics committee of Mashhad University of Medical Sciences.

Competing interests

The authors declare no competing interests.

Authors' contributions

HE and AP initiated the idea, designed the study protocol, analysed data and had the substantive contribution in the interpretation and finalizing the manuscript. MV, AS and AK led the data collection, data entry and undertook the initial drafting of the manuscript. AVN, MJ critically revised the manuscript and data contributed to data analysis. AR contributed to data gathering and entry phase.

References

1. Oberst MT. Methodology in behavioral and psychosocial cancer research. Patients' perceptions of care. Measurement of quality and satisfaction. *Cancer* 1984; 53: 2366-75.
2. Thomas LH, Bond S. Measuring patients' satisfaction with nursing: 1990-1994. *J Adv Nurs* 1996; 23: 747-56.
3. Ware JE Jr. What information do consumers want and how will they use it? *Med Care* 1995; 33: JS25-30.
4. Coulter A, Jenkinson C. European patients' views on the responsiveness of health systems and healthcare providers. *Eur J Public Health* 2005; 15: 355-60.
5. Hsu CC, Chen L, Hu YW, Yip W, Shu CC. The dimensions of responsiveness of a health system: a Taiwanese perspective. *BMC Public Health* 2006; 6: 72.
6. Rice N, Robone S, Smith PC. The measurement and comparison of health system responsiveness. Centre for Health Economics, University of York; 2008.
7. WHO. *The World health report 2000: health systems: improving performance*. Geneva: World health organization; 2000.
8. Rashidian A, Kavosi Z, Majdzadeh R. Assessing Health System Responsiveness: A Household Survey in 17th District of Tehran. *Iran Red Crescent Medical Journal* 2011; 13: 302-8.
9. Valentine N, Darby C, Bonsel GJ. Which aspects of non-clinical quality of care are most important? Results from WHO's general population surveys of "health systems responsiveness" in 41 countries. *Soc Sci Med* 2008; 66: 1939-50.
10. Kowal P, Naidoo N, Williams SR, Chatterji S. Performance of the health system in China and Asia as measured by responsiveness. *J Health* 2011; 3: 638-47.
11. Naseer M, Zahidie A, Shaikh BT. Determinants of patient's satisfaction with health care system in Pakistan: A critical review. *Pakistan J Public Health* 2012; 2: 56-61.
12. Malhotra C, Do YK. Socio-economic disparities in health system responsiveness in India. *Health policy plan* 2013; 28: 197-205.
13. Letkovicova H, Prasad A, Valentine N. *The health systems analytical guidelines for survey in the multi-country survey study*. Switzerland: World heath organization; 2005.
14. Gostin L, Hodge JVN, Nygren-Krug H. *The Domains of Health Responsiveness -A Human Rights Analysis*. Geneva: World Health Organization; 2002.
15. Third and fourth development plans [Online]. [database on the Internet]. 2010. Available from: http://hamahangi.behdasht.gov.ir/index.aspx?siteid=126&pageid=955/.
16. Javadi M, Karimi S, Raiesi A. Comparison of patients' and nurses' viewpoints about responsiveness among a sample from public and private hospitals of Isfahan. *Iran Journal of Nurse and Midwifery Research* 2011; 16: 273-7.
17. Peltzer K. Patient experiences and health system responsiveness in South Africa. *BMC Health Serv Res* 2009; 9: 117.
18. Liabsuetrakul T, Petmanee P, Sanguanchua S, Oumudee N. Health system responsiveness for delivery care in Southern Thailand. *Int J Qual Health Care* 2012; 24: 169-75.
19. Ugurluoglu O, Celik Y. How responsive Turkish health care system is to its citizens: the views of hospital managers. *J Med Syst* 2006; 30: 421-8.
20. Whitehead J, Wheeler H. Patients' experiences of privacy and dignity. Part 1: a literature review. *Br J Nurs* 2008; 17: 381-5.

21. Lin YP, Tsai YF, Chen HF. Dignity in care in the hospital setting from patients' perspectives in Taiwan: a descriptive qualitative study. *J Clin Nurs* 2011; 20: 794-801.

22. Dickert NW, Kass NE. Understanding respect: learning from patients. *J Med Ethics* 2009; 35: 419-23.

23. Habibullah S. Responsiveness of the Federal Health System to the Needs of 18-45 Year Old Adults with Physical Disabilities in Islamabad, Pakistan. Graduate School Theses and Dissertations. University of South Florida; 2012. Available from: http://scholarcommons.usf.edu/etd/4059.

24. Ristea A-L, Stegaroiu I, Dinu V. Responsiveness of Health Systems: a Barometer of the Quality of Health Services. *Quality Management in Services* 2009; 6: 277-88.