

Original Article

Health System Responsiveness for Care of Patients with Heart Failure: Evidence from a University Hospital

Farzaneh Karami-Tanha MD¹, Maziar Moradi-Lakeh MD MPH¹, Hamidreza Fallah-Abadi MD², Marzieh Nojomi MD MPH³

Abstract

Background: Responsiveness refers to non-clinical aspects of the health system and responds to this question that whether health system is responsive to rightful expectations of people. The present study was conducted to determine the health system responsiveness about chronic heart failure patients in one of the main heart centers in Tehran during 2012 – 2013.

Methods: In this cross-sectional study 300 patients have completed a valid questionnaire that designed by World Health Organization (WHO) for measurement of responsiveness. Analysis of data was based on analysis WHO multi-country study that was designed to evaluate responsiveness in health care systems.

Results: In outpatient services, worst performance was related to choice and prompt attention domains (35.8% and 35.1%). Autonomy (31.5%) has the worst performance of inpatient services. Both in outpatient and inpatient services “confidentiality of information” has the best performance (87.8% and 85.6%). Responsiveness of the health system in inpatient services has the worst performance comparing to outpatient services (57.2% versus 66.5%). Most important domains from patient’s view were prompt attention and dignity (47% and 23%).

Conclusion: More attention to patient’s rights, giving them opportunity to choose health care services (choice), providing fast access to emergency care (prompt attention) and considering autonomy are most important aspects of health responsiveness. From patient’s view “prompt attention” was reported as the most important aspect of responsiveness.

Keywords: Chronic heart failure, health system, responsiveness

Cite this article as: Karami-Tanha F, Moradi-Lakeh M, Fallah-Abadi H, Nojomi M. Health system responsiveness for care of patients with heart failure: Evidence from a university hospital. *Arch Iran Med.* 2014; **17(11)**: 736 – 740.

Introduction

Health defined as “a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity” by the World Health Organization (WHO) in 1948. In this definition, it is recognized that the health system should consider the medical needs as well as factors affecting well-being of individuals. Recently, client satisfaction considered as an important aspect of the care provider’s success. Firstly, the quality of medical care considered by Donabedian.¹ He defined three components for quality of care: the technical quality (the ability to improve health outcomes), the process quality (the management of the interpersonal process), and the structure quality (the quality of being pleasant). Interpersonal quality of care refers to care that meets the information, emotional, and physical needs of patients in a way that is consistent with their preferences and expectations. Another term for this type of care was defined as “patient-centered care”.²

Patient satisfaction as an important and separate outcome measure is the interest of health care providers now. Assessing this point by valid questionnaires is increased.

In World Health Report 2000, WHO defined the concept of health system responsiveness as a parameter for a health care system’s ability to respond to service users’ rightful expectations of non-medical care.^{3,4}

It is important to distinguish between the excellence of interpersonal care and patient satisfaction. Patient satisfaction is commonly measured and considered as an indicator of medical care quality. However, patients may be satisfied with poor quality care.⁵ Patient satisfaction can be influenced by perceived need, individual expectations, and the experience of care. Also, there is two important differences between the concept of patient satisfaction and responsiveness. Patient satisfaction focuses on interactions in medical facilities, whereas responsiveness concentrates on the different types of interactions that people have with the system. Patient satisfaction generally covers both medical and non-medical components of care, while responsiveness focuses only on the latter.

The responsiveness concept has eight domains, including: dignity, confidentiality of information, choice, prompt attention, autonomy, surroundings or environment, social support, and communication.⁶ These non-medical domains are important to all human beings.

Results from WHO’s general population surveys of “health system responsiveness” in 41 countries, was reported in 2008, using 105,806 records described the relative importance of eight domains of responsiveness. Based on this report, most important domains for Iranian participants were prompt attention (31%) and dignity (21%).⁶

Chronic diseases are most prevalent in more disadvantaged groups of the population; therefore this makes treatment and pre-

Authors’ affiliations: ¹Department of Community Medicine, School of Medicine, Iran University of Medical Sciences, Tehran, Iran, ²Shahid-Rajaei Hospital, School of Medicine, Iran University of Medical Sciences, Tehran, Iran, ³Department of Community Medicine, School of Medicine, Preventive Medicine Research Center, Iran University of Medical Sciences, Tehran, Iran.

•**Corresponding author and reprints:** Marzieh Nojomi MD MPH, Department of Community Medicine, School of Medicine, Preventive Medicine Research Center, Iran University of Medical Sciences, Tehran, Iran. Address: Crossroads of Hemmat and Chamran Expressways: 15875-6171. Tel : +98 21 88602225, Fax : +98 21 88602217, E-mail : mnojomi@iums.ac.ir.

Accepted for publication: 20 August 2014

vention more complex and strict. Patients with chronic diseases use health system frequently and for a long time.⁷

Heart failure is a chronic disease with high disability and effects on the quality of patient's life. These patients need frequent attend to health care services for a long period of time. For these patients health system responses should be matched to the level of their medical and non-medical needs.

The aim of the current study was to determine health system responsiveness for care of patients with heart failure in one main hospital of heart diseases in Tehran, Iran.

Methods

Study setting and sample

A cross-sectional study was carried out in Tehran, Iran from March 2012 to May 2013. The setting of data collection was in the one of the main and educational hospitals for heart diseases in Tehran (Shahid Rajaee Hospital). Majority of patients with heart diseases attend to this hospital, because they have a wide diversity and scope of heart cares for patients. Shahid Rajaee Hospital is located in almost North of the city. The method of sampling was non-probability convenience.

Three hundred eligible patients with heart failure that referred to a heart failure clinic were included in this study. Patients were interviewed at the waiting room of the clinic. Patients with previous history of hospital admission categorized as "inpatients". Inclusion criteria were defined as patients older than 15 years with chronic heart failure who were willing to participate and able to collaborate mentally and physically with an interviewer.

Exclusion criteria were defined as patients with severe complicated condition who could not cooperate, and those who have hearing and verbal impairment. We explained the objectives of this study for all patients and they signed informed consent.

This study was approved and financed by research, technology affairs of Iran University of Medical Sciences.

Measurement and device

We used the Persian version questionnaire of responsiveness that was used in Multi-Country Survey Study in Health and Health Systems Responsiveness (MCSS) by WHO.⁶ This questionnaire has three parts, eight domains and 63 items. The first part of the questionnaire asked participants to identify the most and the least important domain from a close-ended list of eight domains. The second part included 49 items and asks about user "experiences" (performance questions). Finally, third part of the questionnaire included 14 items (expectations questions).

Eight domains of the MCSS questionnaire included: dignity (women being treated with dignity), prompt attention (being attended to promptly), autonomy (having autonomy in making decision), confidentiality (having personal information kept confidential), choice of provider (having a choice of health-care provider), clear communication (having the health-care provider communicate in a way which can be understood), social support (having access to social support during care) and basic amenities (having amenities in the health-care environment).

Items of each domain were rated on five-rating likert scale from 1 (the least) to 5 (the most). We calculated the mean score of each domain. The duration to administer the questionnaire was average 20 minutes.

Other measurement was about individual characteristics that

have shown to be most closely related with patient's priorities including: age, gender, income, duration of disease and educational status.

Statistical methods

We used data analysis techniques based on analysis of MCSS of WHO that was designed to evaluate responsiveness in health care systems.⁸ Data description was based on respondents' experience and their opinions about received health care. All eight domains of responsiveness (seven in the case of outpatient care and additional one for inpatient care) were addressed through summary inpatient and outpatient care ratings, using average across the domains. We categorized responsiveness to two groups, good responsiveness (combining responses of "very good" and "good") and poor responsiveness (combining responses of "very bad", "bad" and "intermediate"). Best and worst performances in each group were obtained. Point estimates of frequency of responses to these groups were reported with 95% confidence interval. Outpatient care services were defined as consulting room, a clinic or a hospital where patients did not stay overnight. Inpatient services are defined as healthcare center or hospital that patients stay there overnight.

A further summary rating for "overall responsiveness" was calculated using the un-weighted mean of the inpatient and outpatient care services. We also evaluated the causes of discrimination for received health care services. The ranking of the domains based on patient's view were determined. We assigned rank 1 and 8 for the most important and the less important domains respectively.

Data analysis was performed by SPSS version of 16.0 (SPSS Inc., Chicago, Ill., USA). All graphs and tables produced using Microsoft Excel and Microsoft word 2007.

Results

Three hundred patients with a history of chronic heart failure were evaluated to determine the responsiveness in the health care system. Socio-demographic characteristics of the patients are illustrated in Table 1. Majority of patients were 45 – 59 year-old and the mean age was 49.9 (17.1) years. Proportion of male and female were 55% and 45%, respectively. Mean duration of the diagnosed disease was 7.2 (6.9) years. Median duration of disease was 4 years and the range was 3 months to 32 years. More than half of the patients (56%) have less than 12-year education. After dividing subjects based on income quintile, 69% of all were into Q1 and Q2 of income distribution. The upper and lower income limits were 3,000,000 and 15,000,000 Rials (Iranian currency) per month, respectively. Two hundred ninety two patients received health care services during one year ago. Among these patients, 216 (72%) subjects have history of admission in hospital during last 12 months.

Of all respondents using outpatient care services, 33.5% reported poor responsiveness. This proportion of inpatient care services was reported as 42.8%.

Overall good responsiveness in outpatients and inpatients services was 66.5% (95% CI: 61.1% – 71.9%) and 57.2% (95% CI: 51.6% – 62.8%) respectively. Assessment of poor responsiveness in outpatient and inpatient chronic heart failures was done separately with respect of socio-demographics indicators such as age groups, gender, income quintile, duration of disease and educational status. Overall responsiveness in health care was 84% (95%

Table 1. Socio-demographic characteristics of the patients with chronic heart failure (n = 300)

| Variables | Frequency | Percentage |
|------------------------------------|-----------|------------|
| Age (years) | | |
| 15–29 | 49 | 16.3 |
| 30–44 | 59 | 19.7 |
| 45–59 | 87 | 29 |
| 60–69 | 70 | 23.3 |
| 70–79 | 29 | 9.7 |
| > 80 | 6 | 2 |
| Gender | | |
| Male | 165 | 55 |
| Female | 135 | 45 |
| Literacy (years) | | |
| 0–5 | 112 | 37.4 |
| 6–11 | 56 | 18.6 |
| >12 | 132 | 44 |
| Income* | | |
| Q1(poorest) | 67 | 23 |
| Q2 | 138 | 46 |
| Q3 | 36 | 12 |
| Q4 | 43 | 14 |
| Q5 (richest) | 16 | 5 |
| Duration of disease (years) | | |
| < 5 | 162 | 54 |
| 6–9 | 39 | 13 |
| > 10 | 99 | 33 |

*Income distribution divided into quintile

Table 2. Overall poor responsiveness by subgroups of demographic characteristics

| Percentage rating overall responsiveness as poor | Gender | | Income quintile | | | | |
|--|---------------------|-------|-----------------|-------|------------------|------|----|
| | Female | Male | Q1 | Q2 | Q3 | Q4 | Q5 |
| | 15.5 | 16 | 15 | 23.5 | 0 | 14.5 | 0 |
| 16 | Age group | | | | | | |
| | 15–29 | 30–44 | 45–59 | 60–69 | 70–79 | 80 < | |
| | 3.5 | 7.5 | 18 | 21 | 31 | 5 | |
| | Duration of disease | | | | Literacy (years) | | |
| | < 5 | 6–9 | 10 < | 0–5 | 6–11 | 12 < | |
| | 13 | 17 | 25 | 21 | 15 | 7 | |

*First and next columns presented percentage of total and sub-group poor responsiveness respectively

Table 3. Rating of importance* of responsiveness domains by demographic characteristics

| | Gender | | Disease duration | | Age (years) | | Literacy (years) | | Income** | | Overall |
|-------------------------|--------|--------|------------------|------------|-------------|------|------------------|------|----------|----|---------|
| | Male | Female | < 10 years | 10 years < | < 60 | 60 < | < 12 | 12 < | Q1 | Q5 | |
| Dignity | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Choice | 4 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 4 | 3 | 3 |
| Prompt attention | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Autonomy | 5 | 6 | 6 | 5 | 6 | 5 | 5 | 7 | 7 | 5 | 6 |
| Basic amenities | 7 | 4 | 5 | 6 | 5 | 8 | 7 | 5 | 8 | 4 | 5 |
| Social support | 6 | 8 | 7 | 7 | 8 | 6 | 6 | 8 | 5 | 8 | 7 |
| Communication | 3 | 5 | 3 | 3 | 4 | 4 | 4 | 4 | 3 | 6 | 4 |
| Confidentiality | 8 | 7 | 8 | 8 | 7 | 7 | 8 | 6 | 6 | 7 | 8 |

*1=highest important and 8=lowest important; **lowest (Q1) and highest (Q5) categories are combination of (first & second) and combination of (Q3 & Q4 & Q5) income quintiles respectively.

CI: 79.8% – 88.2%) in which confidentiality has the best rates [86.5% (95% CI: 82.6% – 90.4%)]. Overall poor responsiveness based on demographic subgroups illustrated in Table 2.

Outpatient best performance was 87.8% (95% CI: 84% – 91.5%) and 87.5% (95% CI: 83.7% – 91.3%) for domains of “confidentiality in information” and “dignity” respectively. These performances categorized as good.

Worst performance in outpatient’s care in poor responsiveness subgroup, was for domains of choice [35.8% (95% CI: 30.3% – 41.3%)] followed by domains of prompt attention [35.1% (95% CI: 29.6% – 40.6%)] and finally for domain of autonomy [31.7% (95% CI: 26.6% – 36.8%)].

Confidentiality of information [85.6% (95% CI: 81.6% – 89.6%)] and dignity [85.6% (95% CI: 81.6% – 89.6%)] were the best rating as good responsiveness in inpatient services. The situation of autonomy had the worst performance in the group of poor responsiveness [31.5% (95% CI: 26.2% – 36.8%)].

Forty-seven percent of respondents considered prompt attention to be the most important responsiveness domain. All subjects considered prompt attention is the most important domains, ranging from 48% (95% CI: 42% – 54%) in the lowest income quintile (Q1) with incomplete primary education, to 44% (95% CI: 38.3% – 49.7%) in the highest income quintile (Q5) with each education level. Figure 2 shows that prompt attention [47% (95% CI: 41.3%

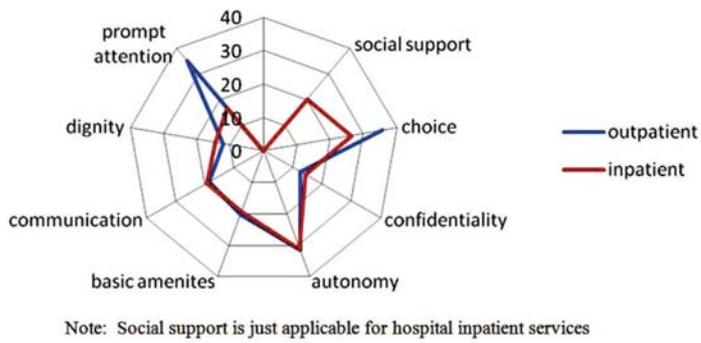


Figure 1. Comparison of poor responsiveness in outpatient and inpatient services (Note: Social support is just applicable for hospital inpatient services)

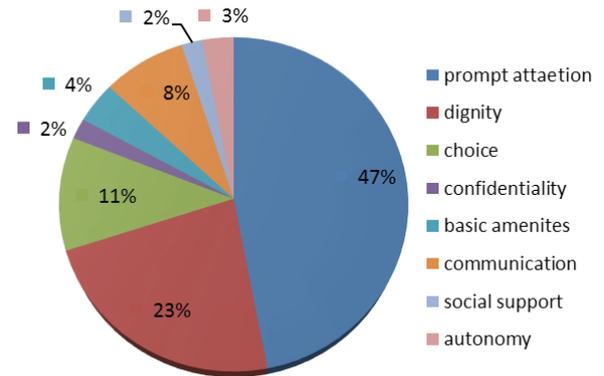


Figure 2. Domains of responsiveness ranked based on their importance from patient's view

– 52.7%]) and dignity [23% (95% CI: 18.2% – 27.8%)] are the most important domains from patient's view.

Table 3, shows important domains of responsiveness as overall and based on a demographic variable. Prompt attention and dignity have a high rating from the patient's view. In most subgroups, confidentiality of information has lower rates. Social support was more important compared with other subgroups in males, patients over 60 years, patients with lower income quintiles and those who educated less than 12 years. Basic amenities and quality of service delivery have higher rating from the perspective of females, highest income quintiles (Q5), more than 12 years education, age below than 60 years and less than 10 years duration of disease than the other subgroups.

Nearly 12% (95% CI: 8.3% – 15.7%) of respondents reported discrimination by the health system in the last 12 months. The most common causes of discrimination were lack of private insurance [24.1% (95% CI: 7% – 80.85%)], lack of wealth [7.3% (95% CI: 4.4% – 10.2%)] and socioeconomic status [2.4% (95% CI: 0.8% – 4%)]. Thirty percent of respondents declared they have refused to take health care services because of financial difficulties, during last 12 months.

Discussion

Responsiveness is a new topic for assessing the performance of the health care system and provides useful information to improve the health system. Responsiveness expresses respect for human rights in the health system and examines legitimated expectations of people from health system.⁹

Promoting responsiveness increases the utilization of the health system by improving adherence to medical recommendation and leads to improved health.¹⁰

A responsive system can promote health by encouraging people to engage in health care practices and improving their interaction with health system.¹¹ Policy makers and programmers can improve health systems by awareness of patient's experiences from health systems.¹² Assessing responsiveness in patients with chronic heart failure is important because of increasing prevalence of the chronic heart failure in the society and frequent referrals for this disease.¹³

In our study “confidentiality of information” and “dignity” had best performance in inpatient care system indicating that health system had acceptable performance in these scopes. This means that system was almost responsive about privacy in environment and medical records. As well as the ability to provide respectful cares.

Autonomy and choice received the worst performance in inpatient services. Autonomy is one of the biomedical ethics principle defined as showing respect to patient's viewpoints and informed choices.

Confidentiality of information and dignity had the best performance in outpatient care services, showing these domains were well done. On the other hand “choice” that refers to individual's rights and opportunity to choose health care services was not performing well. In outpatient services «prompt attention» had the worst performance after the «choice». It appears that health system, failed in providing fast services in emergency cases by personnel and waiting times for receiving medical or surgical cares had performed weakly.

Another important issue is responsiveness based on the demographic subgroups. In this study, the male patients perceived outpatient, inpatient and overall health services as poor. Also, poor responsiveness was more likely to be reported in lower quintiles income, older than 60 years, duration of diagnosed disease below 10 years, and less than 12 years education for any domains.

From the patient's view prompt attention, dignity and choice were the most important domains. Although prompt attention and choice were rated as the most important domains, their relevant responsiveness performance was reported poor. However, dignity was scored relatively well. “Confidentiality” and “basic amenities” though perceived less important, received high performance. “Autonomy” had a less important rating by patient's view and was one of the poor responsive domains both in outpatients and inpatients services.

From the perspective of females, quality of service delivery, such as clean environment and quality of waiting room had the most important rating.

“Choice”, “autonomy” and “basic amenities” were most important domains in the highest income quintile.

In MCSS study in Iran health systems by WHO, best perfor-

mance was confidential information.¹⁴ This finding is consistent with results of the present study.

In the study by saliva, et al. that measured responsiveness in 35 countries, it was found sub-elements of autonomy were rated low in many countries. Confidentiality on the other hand was rated high in many countries. Choice of care provider in a health care unit gained lower scores in 14 out of 35 countries.¹⁵

In comparison with the study in China and Asia, this study revealed better responsiveness. Overall good responsiveness in China and Asia are in outpatients and inpatients services by 48.5% and 53% that were lower than our results.¹⁶ In the above mentioned study “dignity and basic amenities were the most important domains from patient’s views while in our study basic amenities were less important. Prompt attention has the highest ranking in our study, however it was placed in the third rank in China and Asia study. Prompt attention and shorter waiting times were more expected demands in Iran.

In the current study, factors affecting the discrimination achieving the health delivery services were lack of private insurance, a wealth and socioeconomic status respectively. These findings are slightly different from Health System Responsiveness survey Results by WHO in 2003. In latter study important factors in discrimination were lack of wealth, social class, health status and, private insurance, respectively.¹⁷

The present findings seem to be consistent with the result of the study in Tehran diabetic patients in 2011. In study of Tehran diabetic patients, outpatient and inpatient responsiveness were 66.5% and 68.8% respectively. In our study outpatient service responsiveness, was similar but in inpatients service responsiveness achieved low scores.¹⁸

According to our finding inpatient services are less responsive to patient’s expectations. This indicates that our health system must pay more attention to this area and should promote standards of patient care in hospitals.

One of the most important limitations of the current study was carrying out the survey in just one hospital. It could affect the representativeness of results. Although, we should consider, the selected hospital is one of the main and referral hospitals for heart disease in Tehran and maybe in other parts of the country. This point could improve the responsiveness of results considerable.

We found prompt attention; choice and autonomy need more attention in health care services for patients with heart failure disease.

Acknowledgments

We thank all patients who helped us in conducting this study by filling the questionnaires and Mrs. Dadashi who managed the collecting data.

Conflict of Interest: None

References

1. Donabedian A. The quality of care. How can it be assessed? *JAMA*. 1988; **260**: 1743 – 1748.
2. Cleary PD, Edgman-Levitan S, Roberts M, Moloney TW, McMullen W, Walker JD, et al. Patients evaluate their hospital care: A national survey. *Health Aff*. 1991; **10**: 254 – 267.
3. De Silva A. A Framework for Measuring Responsiveness. In GPE Discussion Paper Series: No.32 Geneva: World Health Organization; 2000.
4. WHO: The World Health Report 2000. Geneva: World Health Organization; 2000.
5. Cleary PD, McNeil BJ. Patient satisfaction as an indicator of quality care. *Inquiry*. 1988; **25**: 25 – 36.
6. 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. *Social Sciences & Medicine*. 2008; **66**: 1939 – 1950
7. National Health Priority Action Council (NHPAC (2006). *National Chronic Disease Strategy, Australian Government Department of Health and Aging, Canberra*. 2006.
8. WHO: The Health Systems Responsiveness Analytical Guidelines for Surveys in the Multi-country Survey Study .word health organization December 2005.
9. Darby C, Valentine N, Murray CJL, De Silva A. World Health Organization (WHO): Strategy on measuring responsiveness Global Program on Evidence for Health Policy Discussion Paper Series: No. 23
10. Rice N, Robone S, Smith P. Vignettes and health systems responsiveness in cross-country comparative analyses. *J R Statist Soc A*. 2012; **175**(1): 1 – 21.
11. Williams B. Patient Satisfaction: A valid concept? *Social Science & Medicine*. 1994; **38**: 509 – 516.
12. Bramesfeld A, Wedegärtner F, Elgeti H, Bisson S. How does mental health care perform in respect to service users, expectations? Evaluating inpatient and outpatient care in Germany with the WHO responsiveness concept. *BMC Health Services Research*. 2007; **7**: 99.
13. Mann DL, Bristow MR. Mechanisms and models in heart failure: The biomechanical model and beyond. *Circulation*. 2005; **111**: 2837.
14. Prasad A, valentine N. Iran health system responsiveness the multi-country survey data. 2000 – 2001.
15. De saliva A, Valentine N. Measuring responsiveness: Results of a key informants survey in 35 countries. GPE Discussion Paper Series: No.21 EIP/GPE/FAR. World Health Organization.
16. Kowal P, Naidoo N, Williams SR, Chatterji S. Performance of the health system in China and Asia as measured by responsiveness. *Health*. 2011; **3**(10): 638 – 646. DOI: 10.4236/health.2011.310108
17. Health system responsiveness survey results: Equitable, humane, patient-centered treatment by health systems, or not? Sample Report. Country Profile, November, 2003.
18. Moradi-Lakeh M, Nojomi M, Sajjadi F. Health system responsiveness for care of patients with diabetes mellitus in Tehran Lipid and Glucose Study.[thesis] Tehran: Iran University Medical School; 2011.