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Family Physician Program in Iran, Patients Satisfaction in a Multicenter Study

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Abstract: Patient satisfaction is an integral component of service quality and obtaining feedback from patients about quality of primary healthcare is a powerful way to develop more patient-centered approaches to healthcare delivery. The aim of this study was to measure patients' satisfaction with family physician program in central provinces of Iran in the fall of 2010. A cross sectional survey was conducted at 60 medical centers with family physician services at central provinces of Iran. Patient satisfaction was measured by a standardized questionnaire with eight domains: personnel manner, time consumption, guidance and training, cost of services, service adequacy, capability and skills of personnel, adequacy of equipment and amenities. Student t test, Analysis of Variance (AVOVA) and Kruskal-Wallis test were used in data analysis. Overall, 76.03% of the respondents were satisfied with the whole performance of family physician program, 76.41% of the respondents were satisfied with the family physicians. The strongest domains of client satisfaction were the manner of staffs and adequacy of equipments. It was shown that high patient satisfaction with the family physician was the most powerful predictor of patients' satisfaction with the program. A considerable proportion of patients are unsatisfied with guidance and training and adequacy of program services. Iranian policymakers can develop better programs based on comments from service recipients and promoting the project and some program processes.

Key words: Patient satisfaction, family physician project, quality dimensions, performance measurement, Iran

INTRODUCTION

In Alma Ata 1978 Declaration (WHO, 1978) issued by the World Health Organization (WHO) General Assembly identified primary health care as an appliance to achieve health for all by the year 2000. Primary Health Care (PHC) is socially acceptable and accessible method to all in the community through their full participation with an affordable cost (WHO, 1978). PHC is an important and vital part of any country's health system and deeply affect economical and social development of the society along with its individuals' functionality (Khayyati et al., 2011). Family Physician Project is a fundamental health plan in Iran that started since 2005 (Mohammadbeigi et al., 2013). Currently, the total populations of villages and cities with population less than 20000 have equal conditions and convenient access to health services from this project. Family physician teams are staffed by full-time practitioner, midwives, bachelor of laboratory and pharmaceutical services (Rahbar, 2009).

Recent studies have emphasized the need for assessment methods to measure patient perceptions of health care quality, given that their perceptions can differ from those of professionals (Sofaer and Firminger, 2005; Nekoei-Moghadam and Amiresmaili, 2011). Since, patient perceptions have become an important indicator in the evaluation and improvement of quality of health care (Gonzalez et al., 2005). Obtaining feedback from patients about quality of primary healthcare is a powerful way to develop more patient-centered approaches to healthcare delivery (Marcinowicz et al., 2009). It is well known that customer satisfaction is one of the main components of service quality and extension of health service quality could increase patient satisfaction (Bernhart et al., 1999). Donabedian suggests that 'patient satisfaction could consider as one of the desired outcomes of care and patient satisfaction should be as indispensable for assessment of quality of health care systems (Rublee, 1989). Patient satisfaction used for comparing different health care programs, to evaluating the quality of care and to identifying the aspects of a service which need to be

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changed as well as to identifying the disenrollment consumers (Jackson *et al.*, 2001).

The concept of satisfaction is very complicated and far from clear. It is influenced by cultural, socio-demographic, cognitive and affective components (Aharony and Strasser, 1993). A major problem is to subdivide the term 'satisfaction' into areas which are easy to understand and measure and which provide useful results so that practical conclusions can be drawn by administrators and health service providers to improve the quality of care (Wu *et al.*, 2001; Abusalem *et al.*, 2012). Logically, we have to know what patients expect before we ask them about their satisfaction with the care they received. Therefore, development of patient's satisfaction instrument is very important and should be considered as an integral part of development (Wagner and Bear, 2009). So, the current study aimed to measure patients' satisfaction with family physician program in central provinces of Iran.

MATERIALS AND METHODS

We performed a cross sectional study on a sample of 1173 clients visiting family physician in 60 health service centres. Health centres in the study were selected randomly from the 309 Executive Center Project in Hamadan, Markazi and Lorestan provinces, which includes 219 family physicians in rural health centres and 141 family physicians in urban health centres. These provinces are situated on the middle region of Iran with a total population of 4771051 and cover an area of 95.319 km² (SCI, 2012).

During 5 weeks in October 2010, face-to-face interviews were conducted by trained interviewers. Fifteen volunteers from students of public health faculty of AUMS were chosen and a training course was conducted for interviewers. The aims and confidentiality of study was described for volunteer patients and then data collection fulfilled by interview. In the cases where the clients were younger than 18 years or were not able to respond due to poor literacy their parents or accompanying person responded on their behalf.

We used multi stage sampling method for including eligible patients to the study. First stratified sampling with proportional to size method used to include patients to the study according to the size of stratum. Second in each stratum, 35% of health centers selected by random sampling as clusters. Third, in the selected clusters we interview with 10 patients of all patients that received to care in convenience method.

Sample size calculation conducted based on the results of another study in Iran. High satisfaction considered as 66.6%, d = 6% and α = 0.05. So we need to 240 patients in every stratum. Due to cluster sampling, with implement the design effect equal to 1.5 needs to 360 patients in each stratum. To adjust the size of the stratums, finally we interview with 1173 patients 117 Executive Center.

Information was collected by interviewers using a questionnaire. Various sources and methods were used to determine the questions to be included in the questionnaire. First, a literature search was undertaken between June and July 2010, using MEDLINE database, to find the instruments that had been devised so far to evaluate client satisfaction at the international level. Second, nine focus groups were conducted with clients and three with health care professionals to explore ideas and opinions about the most negative and positive aspects of care. These focus groups were organized towards understanding the issues and recording expressions that could be used to develop questions bank to be included in the questionnaire. Thirdly, the research team developed a pool of question items, in relation to the literature and focus groups, to be included in the questionnaire. These items were shown to a group of clients and health professionals, who provided their opinions about the appropriateness of the items and the ability to comprehend them and assessed the content and face validity of the questions. An initial version of the questionnaire was created, which was evaluated in a pilot study, to analyse the clarity and comprehensibility of the items and features related to the psychometric properties of the instrument. The result of the pilot study led to a standardized questionnaire.

We measured personnel manner (11 items), time consumption (3 items), Guidance and training (4 items), cost of services (2 items), service adequacy (5 items), capability and skills of personnel (6 items), adequacy of equipment (5 items) and amenities (3 items), according to each family physician project units (in accordance with the moral considerations). Each dimension of structured scale scoring between 0 and 100, which a score of 100 indicates the highest level of satisfaction. Besides questions to measure client satisfaction, the questionnaire also included questions about clients' demographic information (age, sex, occupation, educational level and marital status). It is also the first questionnaire developed through an Iranian Family Physician Project.

After collecting data and entering data into the computer, analyses were done in SPSS version 15.0 (Chicago, IL) using appropriate statistical tests was performed. To analyze reliability of questionnaire we determined Cronbach's Alpha which was 0.822 indicating an excellent reliability. p-values less than 0.05 were considered as statistically significant.

RESULTS

The mean age of the respondents was 38.24 years old; 66.5% were women, 81.3% were married or cohabitating and 27.4% were illiterate. Respondents were divided into 4 age groups: Less than 18 years, 18-35 years, 35-60 years and above 60 years, with the majority (510, 43.5%) of them 35-18 years old. The majority of primary health care users came from rural settings with physician offices in the community (88.2%). The majority of respondents were housewives (61.6%) (Table 1).

Time spent to get to the services (time on the way to the nearest health care center) was on average 14.6±12.7 min. More than half of respondents (52.4%) believed that the distance between their homes to the center was suitable for them; 16.8% deemed it unsuitable and other individuals (30.2%) were moderately satisfied with the distance.

Table 1: Demographic characteristics of study participants in patients satisfaction multicenter study, Iran

	Respondents n = 1173	
Variables	N	%
Age (years)±SD	38.24	17.02
Gender		
Men	393	780
Women	33.5	66.5
Marital status		
Single/ never married	192	954
Married	3	24
Divorced/ separated	16.4	81.3
Widowed	0.3	2
Educational level		
No education	321	453
Primary studies	384	15
High school	27.36	38.61
University	32.73	1.27
Occupation		
Employed	285	723
Homemaker	60	84
Student	21	24.29
Unemployed	61.63	5.11
Retired	7.16	1.79
Place of living		
Urban areas	139	1034
Rural areas	11.8	88.2

Frequencies and percentages are presented, except for age, where Mean±SD are presented

Table 2: Patient satisfaction and preferences regarding to working hours of health centers

	No.	Percent
Level of satisfaction with working hours		
Low	559	2730
Medium	305	50.72
High	23.27	26.00
Patient preferences with working hours		
8-14	261	108.0
7-15	804	22.25
8-12 and 14-18	9.20	48.54

We found an inverse correlation between satisfaction with the distance between the centers and the home (p-value: <0.001, r:-0.370).

Twenty six percent of respondents were satisfied or very satisfied with the opening h of the health centers and 50.72% of respondents expressed dissatisfaction with the working h (Table 2). In 48.5% it was proposed that opening h of 8-12 and 14-18 h is appropriate in health centers (Table 2).

The overall satisfaction score was 76.03 points (SD 8.67 points) on the scale 0-100. Table 3 shows client satisfaction with different providers of services in the project, such as family physicians, midwives and health workers of pharmaceutical and laboratory services.

The waiting time for receive the service after visiting center was reported to be 24.5 min. The reasons for longer waiting in 77.8% were increase in number of visitors and in 9.5% the absence of the physician. Sixty two point two% of respondents had high satisfaction from the time spent in the waiting room. Forty five point seven% of women, who came to be visited by midwife, had waited from reserving theirs turn until being visited. Ninety one point one% of clients said they received the required drugs from pharmacies located within the health centers.

There was a significant negative correlation between satisfaction and waiting time. Time spent with a physician to receive the service was 5.7±3.7 min. There was significant correlation between satisfaction and time spent receiving service from the physician. Thus, the satisfaction rate increased with increasing time spent with physicians (P-value: 0.0460, r: 0.108). Overall, 81.9% of patients suggested their family physician should be remaining for a long time in clinic. Sixty% of clients in response to the question "If you were referred to higher levels, which part would you like to go to?" preferred the public sector than the private sector (20%) and 19.5% of them did not differ in this regard.

Table 4 shows the%age of satisfaction obtained according to different dimensions and aspects of the family physician project. We found that age was statistically correlated with all domains except the cost and adequacy of equipment domains. Gender was not related all of domains. Marital status was correlated with the personnel manner, cost of services and amenities

Table 3: Patient satisfaction with health centers and different providers of services in the project

	Overall satisfaction with the project (%)	Confidence interval
Global satisfaction	76.03	67.36-84.71
Family Physician	76.41	64.09-88.83
Obstetrician	83.85	79.93-87.77
Pharmacy	80.83	67.85-93.81
Laboratory	79.73	75.24-84.28

Table 4: Patient satisfaction with different dimensions and aspects of satisfaction

	Patient satisfaction questionnaire domains							
Variables	Personnel manner	Time consuming	Guidance and training	Cost of services	Ability and of personnel	Amenities	Adequacy of equipment	Adequacy of services
Age groups								
<18	82.1±8.1	74.9±12.6	66.4±10.7	76.4±14.4	79.7±7.7	70.5±16.4	94.0±9.6	66.7±9.60
18-35	80.6±9.5	75.2±16.4	66.2±14.8	78.7±18.5	78.9±9.7	71.3±16.8	94.2±10.6	68.7±11.1
35-60	82.4±9.4	77.0±16.0	66.7±12.4	77.8±18.2	80.8±10.5	75.3±16.3	95.1±11.0	70.8±12.1
>60	81.4±11.	79.6±15.6	69.8±15.1	77.7±18.3	81.6±9.4	78.9±16.0	96.4±10.9	71.3±12.1
p-value	<0.05	<0.05	<0.05	0.60	<0.01	<0.001	0.12	<0.001
Gender								
Male	81.1±10.2	76.2±16.7	65.6±14.6	77.9±16.2	79.4±10.7	72.0±17.3	94.7±11.3	69.3±12.1
Female	81.66±9.2	76.39±15.4	67.4±13.1	78.0±18.85	80.2±9.3	74.3±16.3	94.7±10.3	69.6±11.2
p-value	0.92	0.69	0.76	0.56	0.28	0.42	0.70	0.62
Marital status								
Single	84.6±7.7	77.4±013	69.1±11.6	79.9±17.1	80.9±9.2	73.9±16.3	95.5±9.5	69.9±10.7
Married	80.8±9.7	76.0±16.4	66.3±14	77.5±18.2	79.7±9.9	73.2±16.6	94.5±10.8	69.4±11.7
Divorced	80.8±5.2	80.0±50.1	65.0±5.3	60.0±5.6	77.5±5.4	80.0±5.1	93.1±5	80.6±5.3
Widow	81.0±10.1	78.7±15.6	67.0±16	88.1±13.4	82.1±10.5	82.5±20.1	96.0±13.7	69.9±10.5
p-value	<0.001	0.57	0.09	<0.01	0.27	<0.05	0.65	0.36
Education level								
No education	82.1±8.1	74.9±12.5	66.3±10.7	76.3±14.4	79.7±7.6	70.4±16.3	83.9±9.6	66.6±9.5
Primary studies	80.6±9.4	75.2±16.3	66.2±14.7	78.7±18.4	78.9±9.7	71.3±16.8	94.2±10.5	68.7±11.1
High school	82.4±9.4	76.9±15.9	66.6±12.3	77.8±18.2	80.8±10.5	75.3±16.3	95.1±10.9	70.7±12.0
University	81.4±11.0	79.5±15.6	69.8±15.1	77.6±18.3	81.5±9.4	78.9±15.9	96.4±10.9	71.3±12.0
p-value	<0.05	<0.05	<0.05	0.60	<0.01	<0.000	0.12	<0.001
Occupation								
Employed	82.0±9.7	75.5±17.0	65.7±15.7	79.3±16.6	79.5±10.8	69.5±18.9	94.3±11.7	69.3±12.6
Homemaker	81.3±9.2	76.7±15.7	67.2±13.1	77.8±18.9	80.2±9.3	74.9±16.0	94.9±10.2	69.8±10.9
Student	84.0±8.9	75.0±12.1	69.2±9.9	81.0±14.2	80.9±7.9	77.2±9.7	97.4±8.5	68.7±12.1
Unemployed	78.7±11.9	76.5±17.2	65.3±12.7	74.6±17.1	78.6±12.5	69.9±15.0	92.3±11.6	68.2±12.1
Retired	81.4±8.9	79.1±11.1	69.3±17.6	75.7±18.9	82.3±8.3	86.7±14.1	98.9±10.8	71.7±12.7
p-value	<0.05	0.72	0.19	0.15	0.35	<0.000	<0.05	0.60

*Values are Mean±SD, Student t test, or analysis of Variance AVOVA, or the Kruskal-Wallis test performed

domains, with single expressing higher satisfaction. Level of education wasn't only related to cost of services and adequacy of equipment, with higher satisfaction among those with no schooling or a primary education level of studies. Occupation was related personnel manner, amenities and adequacy of equipment; retired individuals had higher scores for amenities and adequacy of equipment.

Sixty one point one% had high satisfaction from regular cleaning of the health center. Seventy point one percent of clients had high satisfaction with the approach of the clinic staff with patient entourages.

Overall satisfaction was associated with all patient characteristics excluding patient gender and marital status. Between age and satisfaction, the Pearson test showed a direct correlation (or significance) (p: 0.03, r: 0.148). "T" Test did not show a difference between satisfaction and gender and marital status (p>0.05). Between satisfaction and level of education, Spearman correlation test showed a reverse correlation (p: 0.03, r: 0.149). So, age, distance between home and clinic and level of education are significant factors of satisfaction.

DISCUSSION

Patient' perception of health care has gained increasing attention over the last 20 years. It is currently established that patient' opinion should supplement the usual indicators of health care quality and patient satisfaction has become a significant contributing outcome in assessment and improvement of health care quality (Antoniotti *et al.*, 2009). Patient satisfaction reflects the patients' response given to their health care needs and expectations. Moreover, this evaluation can reveal aspects of care that may be improved in an institution and can be used to define priorities among the aspects in need for improvement (Bredart *et al.*, 2004).

The results showed that overall satisfaction, manner of staff and adequacy of equipment had acceptable situation in clients' perspective whereas guidance and training and adequacy of services needed more attention to provide an effective health services. High overall satisfaction with family physician project showed that successful service provision through this system is based on stakeholders need. This can be considered as a key measure for assessment of the quality of health services

and predictor of compliance and utilization which is associated with the continuity of care, the physician's communication skills and confidence in the primary health care system. This is close to the findings of (Calnan *et al.*, 1994). In the Canadian Community Health Survey (Statistics Canada 2006), 91% of respondents were very or somewhat satisfied with the care from their family physician or other physicians, ranging from 88% among respondents aged 20-34 years to 94% among respondents = 65 years (Statistics Canada, 2006). A relatively high rate of client dissatisfaction from guidance and training and adequacy of services can be warnings to relevant authorities, so that they can be able to concentrate on the weak points to provide a better and more suitable services for clients and taking the view of clients can be helpful.

We found that adequacy of equipment and behaviors of staffs are more related to overall satisfaction. The result is a little different from that of (Cheng *et al.*, 2003), regarding inpatient care. They found that physician's interpersonal skill was more correlated with overall satisfaction. The difference may arise from settings (clinics versus hospitals) or disease complexity (simple versus complex diseases). Primary care patients may directly assess whether the physician can meet their needs by making the right diagnosis, providing effective treatment and curing their illness. Therefore, adequacy of equipment is the most important factor in overall satisfaction and plays a critical role in patient satisfaction. Moreover, service orientation of family physicians came out as the strongest factor influencing patient satisfaction in the family physician project. Continuity of care and length of relationship with physicians were positively correlated factors of satisfaction in other study (McWhinney, 1997). It suggests that most clients wish to receive care from a regular personal physician, who knows them and is familiar with their problems. This leads to a relationship of understanding and confidence that encourages the patient to adopt an active and responsible attitude towards his own health. The family physician takes the time to listen and understand the patient, to apply scientific medicine, to anticipate the pathology and to maximize the benefit of this close relationship with the patient in providing preventive measures appropriate for patient's specific needs.

Most of the subjects observed, (66.5%) were female. Since most women were housewives, compared with men, they have more opportunity to visit health centers during opening hour. Also, women are referring more to these centers, due to a higher sensitivity to diseases and physical disorders. Furthermore, more female respondents

attend health centers than do males, probably because of the strong role these centers play in health promotion about women's diseases, children's care and maternity issues; moreover, probably there is a large number of females than males in the old age category who require continuous supervision and follow-up on their medical conditions (Hassanzadeh *et al.*, 2013; Mohammadbeigi *et al.*, 2013).

Based on the results of this study, the average satisfaction score of the project among women is higher than the average male client satisfaction; but there was no significant difference. This shows that the quality of services determines the client's satisfaction while, client sex is not effective factor. Results from other similar study also confirmed this issue (Margolis *et al.*, 2003).

In Iran, female staffs are responsible for family planning, maternal care and other women cares. Hansen *et al.* (2008) found that for female patients, being visited by a female provider was associated with higher perceived quality as we found in Iranians (Hansen *et al.*, 2008). We also studied the influence of marital status, occupation and location area of our respondents but, unlike others (Beck *et al.*, 1999), we did not find that these variables had any influence on our sample client satisfaction.

In total, 20% of respondents were unsatisfied with waiting in centers; this finding is similar (Hutchison *et al.*, 2003), which reported that one-third of patients did not access to their family physician. Previous studies from Aldana *et al.* (2001) also identified long waiting time as a factor contributing to patient dissatisfaction. Dissatisfaction in other studies were due to congestion and crowding because most people refer to restricted h, absence of physicians and poor management of time(Aldana *et al.*, 2001; Rahman *et al.*, 2002).

This study showed that literacy state (literate or illiterate) and age are important markers that should be considered in any plan for the improvement of satisfaction with the family physician program. This study showed that young age and low education level are associated variables in satisfaction. Our study showed that older people gave lower ratings for some organizational aspects of care. These findings did not support by another study (Hassanzadeh *et al.*, 2013).

However, clients might have altered their responses, deliberately or not, owing to feeling vulnerable and dependent on staff (Otani *et al.*, 2012). The fact that clients were dissatisfied with the information process is in congruence with previous findings and it may indicate a pervasive weakness of providers of services in keeping

informed patients (Backhouse and Brown, 2000). Delivery of necessary information to patients can help in removing of anxiety and increasing of overall satisfaction (Azoulay *et al.*, 2002). Moreover, in the present study, participants reported that they expected mainly their physician to inform them about diagnostic tests and treatments and midwives to give information about their medications. These findings are in line with (Merkouris *et al.*, 2004). In our opinion, every effort should be applied by family physicians to engage clients in the treatment project and to maximize the amount and adequacy of the information given to clients about conditions and their treatment. Lower educational level was also independently associated with an increased satisfaction with the family physician project.

There were some limitations to the present study. First, the study was performed on the population of patients who attended family practice in the study period. We do not know in which way the participation of non-users of family practice could alter these findings. The relatively high satisfaction indicates that the results of our survey are a valid evaluation of satisfaction with the current health care system. Another limitation might be that we do not have any data on satisfaction before the introduction of the new health care system (family physician project). Family physician program in our country has been started since 2005. This study is the first attempt to evaluate the impact of the ongoing reforms on consumer perception in Iran. In addition, the data were from users of family physician centers. As such, the results may not be generalizable to users of secondary or tertiary health care services.

Although this study cannot replace a systematic evaluation of the health care reform in Iran, it brings positive reflections of the patients who are the focus of the system's improvement. Despite some limitations, we can conclude that health care reform in Iran had a positive impact on the consumers' perceptions of health care quality, as measured in terms of consumer satisfaction with health care system, the overall satisfaction with the whole project. The most striking finding is a strong correlation between satisfaction with the family physician program and its domains which underpins the importance of communication skills for undergraduate and postgraduate teaching needs. The results can also serve in health care analysis and planning during the next steps in program.

Based on the study, the following recommendations are presented to increase patients' satisfaction and improve the quality of primary health care services. There is a necessity to focus equally on functional quality that can bring enormous benefits for the system and make the organization more pleasant for patients. These recommendations could be operationalized by the providing better physical facilities; creating an equipment and special possibility for making phone calls between patients and executive centers; cross training staff on patients' concerns, e.g. their need for better polite behavior, from responsive personnel; providing a trustful atmosphere across the centers; paying individual attention to each patient; and better facilities for patients.

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