

## Original Article

# Utilization Review of Specialized Services and Underlying Social Factors among Urban Families in Fars Province, Iran

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## Abstract

**Background:** The present study is a utilization review of outpatient services offered by specialists and underlying social factors among urban families in Fars Province, Iran.

**Methods:** The present study conducted among 1900 residents in urban areas of Fars Province in January 2013. Sampling was carried out through a three-step method, which was designed based on utilization of health services survey. Data were analyzed using statistical tests.

**Results:** About a quarter of the sample group expressed the need for outpatient services of specialists, of whom about 83% received medical attention of a specialist. Among the main reasons for not referring to specialists were financial issues as the top reason followed by refusal to visit the physician, long distances and high costs of the services.

**Conclusion:** About 17% of the participants who needed outpatient services of specialists failed to receive the service. This indicates the necessity of measurements to improve the access to outpatient services of specialists among different social groups.

**Keywords:** Health services, social determinants of health, social justice, specialization, utilization review

**Cite this article as:** Tavakoli A, Lotfi M, Kavosi Z, Zarifi M, Ayoubian A. Utilization review of specialized services and underlying social factors among urban families in Fars Province, Iran. *Arch Iran Med.* 2016; **19**(1): 39 – 45.

## Introduction

Public access to health care services, provision of health services, and following a healthy lifestyle are absolute rights of all nations.<sup>1</sup> Healthy human is considered as the backbone of permanent development. Provision of health services and health of societies are the main responsibilities of governments.<sup>2</sup> Iran is one of middle-income countries that its cities have a lot of difference in indicators of development. Distribution of health and treatment indices, which are among the development indicators, is very important.<sup>3-5</sup>

Several surveys have reported the poor access to health services in different regions of the country. For example, access to health care services in Tehran as the capital city of Iran is around 80%, while 20% or so are deprived of services they need.<sup>6</sup> In spite of growing insurance coverage by insurance companies and extension of complementary insurance, still more than 50% of medical services charges are incurred by patients regardless of their income level.<sup>7</sup> The contribution of patients to the costs of health and treatment services is high. Due to the mentioned costs, about 3.5 million people go below the poverty threshold each year.<sup>8</sup> Therefore, provision of health interventions are important measures that

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Accepted for publication: 14 October 2015

promote social justice regarding health.<sup>3</sup>

Some scholars define fair provision of health services as no systematic discrimination between different social groups in receiving health services.<sup>3,9,10</sup> However, the aim of promoting health justice is not to tackle all challenges of discrimination in health provision and the quality of services people receive. It is rather about addressing or reducing those issues which are avoidable.<sup>4,11-13</sup> Justice is a normative concept and no one can measure health or health justice. However, it can be measured through evaluation of inequalities between different social groups regarding their health status. To a great extent, Inequalities reflect injustice.<sup>14</sup>

At any rate, access to medical health services reflects congruence between a set of factors such as ability to pay the bill, accessibility, availability, acceptability, as well as harmony between the services and needs.<sup>15-17</sup> Given that the main cause of health injustice originates from social factors, the best way to achieve health justice is to deal with such factors.<sup>4</sup> Demographic features, feeling the need or demand, quality of services, access to services, proper facilities, insurance coverage, efficient transportation system, as well as agreement between charges and quality of services are effective social factors in health justice.<sup>6,11,18,19</sup>

The data regarding these factors are helpful in making better decisions and logical assessments of health services. Without such information, any planning in this sector is subjective and unreal, probably leading to economic inefficiency. Furthermore, data concerning accessibility, provide us with some information, which helps to detect social groups that unjustly suffer from inadequate medical services.<sup>19</sup>

According to studies by Rama Baru, et al. and Balarajan, et al. in India, unequal distribution of resources, inadequate public investment, difference in quality of services provided by public and private sectors, uncontrolled commercialization of service provision, increase in the costs of the health services, reformations in health

sectors, lack of auditing procedures, and high health expenditures incurred by patients were the main causes of injustice in health services.<sup>20,21</sup>

According to the Ministry of Health, Treatment and Medical Education, the parliament of Iran approved the indicators of social justice in 52 headlines, which were determined based on the studies by Beheshtian, et al.<sup>22</sup>

Access to specialized health services was among these indicators. The present study aimed to measure the access to such services among outpatients. Importance of specialized services lies in the fact that assessment at this level determines whether more medical attention is needed or not. In addition, proper and timely provision of medical attention by specialists, especially for outpatients, is highly efficient in cutting down medical costs and need for hospitalization due to acute and chronic diseases.<sup>23</sup> Therefore, the present study first focused on the social factors in access to medical care provided by specialists for outpatients and then there was an attempt to determine whether the provision of the services is fair or not.

## Methods

The present study was a survey conducted among urban households throughout the Fars Province-Iran, including Shiraz and nearby cities in early 2013. The total population of the province is 4596658, of whom 61% live in cities (2803961 individuals or 805736 households).

The sample size was determined based on the referral rate of 18.5% (Pourreza, et al.<sup>24</sup>) and through sample size formula, 423 households were calculated as the minimum number of participants.

Sampling was carried out through a three-step method. At first, 30 cities in the province were categorized in four layers. The capital city, i.e. Shiraz, was the first layer and those cities, which were within 150 km radius of the capital constituted the second layer. The third layer comprised cities between 150 km and 300 km radius from the capital. Cities beyond 300 km radius were placed in the fourth layer. Afterwards, two cities were selected from each layer and sample size of each city was determined based on the ratio of allotment. The samples (households) were selected randomly based on their address.

The inclusion criterion of the study was permanent residency in the city. The number of household members or their nationality was not considered. Those who lived in dormitories, inns and people with temporary residence were excluded from the sample group.

A new form to collect data was designed based on utilization of health services survey.<sup>19</sup> It included the following sections: 1) demographic information of the household and all family members; 2) assessment of feeling the need for medical attention, referral to a specialist, and receiving services; as well as 3) assessment of the setting where the services were provided regarding the time and cost.

First, Questionnaires were filled out through interviews with the parents or another member with the knowledge to answer the questions and then all members of the family were interviewed (over 15 years old). The data concerning feeling the need, referral, and receiving the services during the previous two months were collected. "Feeling the need" was measured based on the response to the question: "Have you felt any necessity to refer to a special-

ist in the last two months?". The first question was followed by the next question if the answer was "yes." The second question was about referral to a physician that ended in the third one about "receiving the services" if the answer to the second question was positive. In the case of failure to visit the specialist, the reason was required.

To determine face validity of the questionnaire, six experts in the field of health services helped us. Content validity of both questionnaires was studied and confirmed. Reliability of the questionnaire was approved using the test-retest method. First, questionnaires were filled out by 30 respondents (as recommended by a statistician). Then, the respondents again filled out those questionnaires after a week. After comparing, the results were similar.

The correlation coefficient was calculated using two sets of answers. To compare the means, paired-sample *t*-test was employed. The correlation coefficient equaled 0.91, which was indicative of the reliability of the questionnaire.

The questionnaires were filled out from December 22, 2012 to January 20, 2013 by 20 interviewers. Actually, the information gathered was related to two months before the period of data collection, i.e. November and December of 2012.

Economic status of households was estimated based on the questionnaire's evaluation from local conditions and the type of building. Due to little credibility, economic status was finally rejected. However, since data collection occurred simultaneously with the targeted subsidies, it was not possible to gain detailed information about the family's wage.

The data were analyzed by SPSS version 18, using descriptive statistics, correlation coefficient, variance analysis, Chi-square, and independent sample *t*-test.

To address ethical and legal issues:

1. This study settled a part of the research priorities of the MRD Department of Shiraz University of Medical Sciences, which was directly declared by the Ministry of Health and Medical Education.
2. The previous study on health services helped us to design a simpler form of data collection. Experts and some physicians approved the questionnaire as well.
3. The sample members participated in the study with informed consent. Confidentiality of information was taken into account.
4. The names of people remained confidential and the questionnaires were all coded.

## Results

As listed in Table 1, 528 households (1900 individuals) participated in the study. The participants were from Shiraz (capital city), and six other cities in Fars province. The number of households in each city was determined based on the population of the city, i.e. 39% of the capital city and 61% of the other six cities. In addition, household size as the proportion of the number of family members to the number of households was  $3.59 \pm 1.28$  in average for all cities.

Regarding the other features of the participants, 98.3% were Iranian households and 1.7% was Afghan. In addition, based on the judgment of the interviewers, 84.60% of the participants were above the average level of financial capability and 15.40% were in an undesirable financial situation. On average, the participants were 31.94 years old (50.74% men and 49.26% women). Literacy level among 10 to 49 year old participants was 97.69%. Unmar-

**Table 1.** Frequency distribution of samples and household aspect based on cities

City	Household info		Family members info		Household aspect
	Number	%	Number	%	
Shiraz (capital city)	206	39.0	756	39.8	3.66
Firouzabad	49	9.3	181	9.5	3.69
Pasargad	35	6.6	122	6.4	3.48
Eghlid	40	7.5	143	7.5	3.57
Darab	75	14.3	280	14.7	3.73
Mohr	35	6.6	130	6.8	3.71
Larestan	88	16.7	288	15.2	3.27
<b>Total</b>	<b>528</b>	<b>100</b>	<b>1900</b>	<b>100</b>	<b>3.59</b>

ried and married participants constituted 36.70% and 60.53% respectively. The divorcees and widows constituted 0.47% and 2.30% of the participants, respectively.

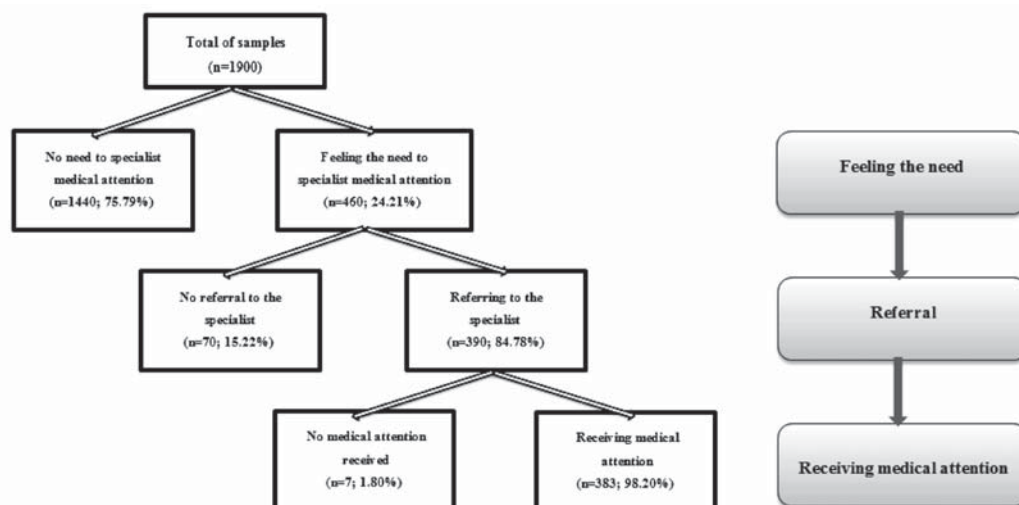
It is worth mentioning that demographic features of the sample group were almost similar to the statistics published by Iran Statistics Center.<sup>25</sup> The sample group was representative of the study population. Furthermore, 87.92% of the participants were covered

by health insurance and among them, 34.10% were further covered by complementary insurance.

As listed in the Table 2, 24.21% of the sample group needed specialized attention and among them 84.78% referred to a specialist that among them 98.20% received the service. The pattern of feeling the need, referral, and receiving the services has been shown in Figure 1.

**Table 2.** Frequency distribution of samples based on feeling the need, referral, and receiving the service

City	Number of sample in each city	Feeling the need			referral			Receiving the service		
		N	$\hat{\mu}$	Confidence interval (%)	N	$\hat{\mu}$	Confidence interval (%)	N	$\hat{\mu}$	Confidence interval (%)
Shiraz (capital city)	756	203	26.85	(23 , 30)	179	88.17	(83 , 92)	175	97.76	(95 , 99)
Firouzabad	181	52	28.72	(22 , 35)	47	90.38	(82 , 98)	47	100	(100 , 100)
Pasargad	122	14	11.47	(5 , 17)	12	85.71	(67 , 100)	11	91.66	(76 , 100)
Eghlid	143	35	24.47	(17 , 31)	33	94.28	(86 , 100)	33	100	(100 , 100)
Darab	280	74	26.42	(21 , 31)	52	70.24	(59 , 80)	50	96.15	(90 , 100)
Mohr	130	34	26.15	(18 , 33)	23	67.64	(51 , 83)	23	100	(100 , 100)
Larestan	288	48	16.66	(12 , 20)	44	91.96	(84 , 99)	44	100	(100 , 100)
<b>Total</b>	<b>1900</b>	<b>460</b>	<b>24.21</b>	<b>(22 , 26)</b>	<b>390</b>	<b>84.78</b>	<b>(81 , 88)</b>	<b>383</b>	<b>98.20</b>	<b>(96 , 99)</b>



**Figure 1.** The pattern of feeling the need, referring, and receiving the services

**Table 3.** Frequency distribution of feeling the need, referring, and receiving the services and emergency condition based on gender and age group

	Feeling the need		Referral		Receiving the services		Emergency condition
	Rate of participants that felt the need for medical attention by a specialist	Referral rate of the sample group (%)	Referral rate of those in need of medical attention (%)	Rate of receiving the services in the sample group (%)	Rate of receiving the services among those in need of the services (%)	Rate of receiving the services among those referred (%)	Rate of those who felt urgency for the services (%)
<b>Age group</b>							
< 1year	54.54	45.45	83.33	45.45	83.33	100	80.00
1–5 years	33.66	31.68	94.11	31.68	94.11	100	31.25
6–18 years	14.64	11.87	81.13	11.60	79.24	97.67	13.95
19–30 years	18.56	15.08	81.25	14.89	80.20	98.71	24.35
31–45 years	22.73	18.10	79.61	17.88	78.64	98.78	20.73
46–60 years	34.34	30.69	89.38	29.78	86.72	97.20	24.75
61 yeas <	43.30	38.58	89.09	37.79	87.27	97.95	20.40
<b>Gender</b>							
Male	20.85	17.63	84.57	17.32	83.08	98.23	26.47
Female	27.67	23.50	84.94	23.07	83.39	98.18	20.90
<b>Total</b>	24.21	20.52	84.78	20.15	83.26	98.20	23.33

Table 3 indicates that 83.26% of those who felt the need to visit a specialist managed to receive the services and 16.74% failed to do so. In addition, main groups of patients were infants (below 1 year of age) and the elderly (older than 61 years old). One-fourth (23.33%) of those who referred believed that they needed emergency attention. Moreover, feeling the need to receive medical attention was more among women. Although the rate of referral and receiving the services was the same for the two genders, women used specialized services more than men.

The majority of the referrals that felt the need to seek medical attention, once visited a specialist, during the two months before data collection. Participants referred to a physician with a mean of  $1.46 \pm 0.85$ . Also, 69% of them looked for medical attention once, 21% twice, 7.2% three times, 1.5% four times, 0.3% five times and 1% six times. The age group 46–60 visited a specialist more than other age groups. It is notable that the average number of referrals was the same for both genders.

Furthermore, 78.97% of the referrals for specialized care covered by urban families' physician program, and 35.12% of the referrals had consulted with a general practitioner beforehand. It is notable that 85.40% of the general practitioners that prescribed seeking a specialized attention were a part of urban families' physician program. The main reasons for not referring to specialists were financial reasons, pending decision to refer to the specialist, unavailability of the specialists in the region, and high costs of the services. Financial issue was the main reason for not referring to a physician by seven participants who felt the need to refer to a specialist but did not receive the services. It is notable that only 11% of referrals to specialists did not lead to improvement of the patient's condition and in 89% of the cases, the problem was resolved, or the treatment was continued or the case was referred to another specialist.

Concerning the setting of referral, private clinics were at the top

of the list both in Shiraz and other cities (55% of referrals). On average, waiting time to visit a physician in Shiraz was 6.5 days with a standard deviation of 19.79 [min = 0, max = 120]. It took these participants a 40-minute trip with a standard deviation of 28.31 [min = 5, max = 120] in the city to reach a clinic, and 82 minutes with a standard deviation of 80.57 [min = 0, max = 480] for waiting in the clinic to have 13-minute examination with a standard deviation of 6.99 [min = 3, max = 45] by the physician. In the case of referrals in other cities, waiting time to visit a physician was 3.5 days with a standard deviation of 10.81 [min = 0, max = 90] and made a 108 minute trip with a standard deviation of 121.51 [min = 3, max = 480] followed by 59 minutes waiting time in the clinic with a standard deviation of 72.123 [min = 0, max = 720] to have a 15-minute examination with a standard deviation of 9.85 [min = 3, max = 60] by the physician. The average cost of one visit by a specialist in Shiraz was Rls.29000 with a standard deviation of 3970.98 [min = 0, max = 20000] for transportation and Rls.95000 for the services with a standard deviation of 11165.00 [min = 0, max = 90000] (totally Rls.124000 with a standard deviation of 13100.76 [min = 0, max = 100000]). These amounts for referrals in other cities were Rls.127000 for transportation with a standard deviation of 17125.36 [min = 0, max = 100000] and Rls.145000 for the services with a standard deviation of 9080.76 [min = 0, max = 90000] (totally Rls.272000 with a standard deviation of 21447.62 [min = 0, max = 125000]). It is noticeable that at the time of carrying out the study, 1\$US was worth Rls.32000, and tariffs of visiting a specialist in private and public sectors were Rls.15500 and Rls.5300, respectively.

As shown in Table 4, there was a significant difference regarding the average age of referrals so that referrals with a higher average age constituted a large group. There was a significant relationship between feeling the need to seek specialized attention and gender; therefore, women needed the services more than men. In

**Table 4.** Relationship between feeling the need to see a specialist medical practitioner and gender, age, marital status, nationality, occupation, and economic status

Variable	Feeling the need to receive the services (%)	P-value
<b>Age</b>		
< 1 year	54.5	< 0.001*
5 years–1	33.7	
18 years–6	14.6	
30 years–19	18.6	
45 years–31	22.7	
60 years–46	34.3	
61 years <	43.3	
<b>Gender</b>		
Male	20.9	0.001*
Female	37.7	
<b>Marital Status</b>		
Unmarried	12.3	< 0.001*
Married	28.9	
Divorced	25.0	
Widow	59.0	
<b>Occupation</b>		
Unemployed-not seeking job	26.4	< 0.001*
Unemployed-seeking job	14.9	
Self-employed	18.4	
Private sector	18.7	
Public sector	22.6	
Housewife	34.6	
Student	14.1	
Unemployed with income	25.0	
Pensioner	50.0	
Retired	37.5	
Others	47.4	
<b>Nationality</b>		
Iranian	24.2	0.833
Afghani	25.8	
<b>Economic Condition</b>		
Very Bad	28.1	0.709
Bad	26.8	
Moderate	24.4	
Good	22.8	
Very good	21.30	

\*The level of significance was considered 0.05.

addition, there was a significant relationship between the need to seek medical attention and occupation among participants over 15 years old. Pensioners and housewives were the largest groups who needed the services and students were the smallest group, this difference in pensioners and students was related to their ages and in housewives related to their gender (female). Furthermore, no significant relationship was found between the need to visit specialist medical practitioner and nationality/financial condition. *P*-values of less than 0.05 were considered statistically significant.

Furthermore, there was no significant association between referral to specialists and financial condition, medical insurance, being part of the family physician program, education level, and living place. However, complementary medical insurance had a significant relationship with referral to specialists. Therefore, the rate of referral to specialists was higher among those who were covered by complementary medical insurance. *P*-values of less than 0.05 were considered statistically significant.

In addition, as the results in Table 5 show, there was no significant difference between the average number of referrals to spe-

cialists between men and women. However, the average number of visits in different age groups have a significant difference, so that the age group older than 46 years had the highest number of referrals. It is notable that when age is considered as a quantitative variable, a significant and positive relationship with a correlation coefficient of 0.186 was obtained; meaning that by growing older, the number of referrals to a specialist increases with a correlation coefficient of 0.186.

## Discussion

According to the data collected in this study (late 2012 and early 2013), 87.92% of the study population was under medical insurance coverage. This shows a 21.12% growth of insurance coverage compared with the result of the utilization of health services in a study conducted in 2002.<sup>19</sup> In addition, among those under medical insurance coverage, 34.10% had complementary insurance coverage, which is 26.3% increase compared to the results of a study on the utilization of health service in 2002.<sup>19</sup>

**Table 5.** Number of referrals based on age and gender

Variables	Average number of referrals	SD	P-value
<b>Age</b>			
< 1 year	1.00	0.00	0.008*
5 years–1	1.13	0.42	
18 years–6	1.30	0.55	
30 years–19	1.37	0.62	
45 years–31	1.44	0.68	
60 years–46	1.69	1.20	
61 yeas <	1.57	0.86	
<b>Gender</b>			
Male	1.45	0.87	0.768
Female	1.47	0.83	
*Correlation is significant at the 0.05 level (2-tailed)			

As listed in the Table 2, feeling the need to visit a specialist was identical among the cities under the study except for Pasargad and Larestan. About one-fourth of the participants felt the need during the two months before the study. Compared with other studies, it is notable that Pourreza, Ebadifard Azar, and Zare took into account all types of diseases during one month before the interview. They reported that the rate of disease in the participants was 22.9% among the residents older than 18 years of age in Tehran, 94.84% among residents of Naein, Isfahan, as well as 54.1% among residents of Kenareh Village, Fars.<sup>17,24,26</sup> However, respondents in the present study (different age groups) were interviewed regarding any disease they had during the last two months before the study that made them seek medical attention of a specialist.

Moreover, referral rate to specialists was more than 85% (an acceptable rate) in all cities under the study except for Darab and Mohr. The rates of referral to clinics in studies by Pourreza, et al. were reported 80.97%, 48.71%, 78.63%, and 69.5%, respectively.<sup>17,24,26,27</sup> Therefore, in this study referral rate to clinics was higher than that of the previous studies. The main reasons that prevented referrals to a specialist were financial issues, deciding to visit the physician, unavailability of the practitioners in the region, and heavy costs of the services. In the city of Darab, the main reasons in this regard were financial problems, self-medication, no access to specialists, and unavailability of the practitioners nearby. In the case of participants from Mohr city, the long distance and pending a decision to seek medical attention were the main reasons for not referring to specialists. Pourreza mentioned that the main reasons for lack of referral to clinics include self-medication, bearable disease, financial problem, lack of belief in effectiveness of the treatment, and inaccessibility of the services.<sup>24</sup> Furthermore, Ebadifard Azar stated that the main reasons of self-medication in city of Naein were bearable disease along with distrust in the clinics.<sup>17</sup> Moreover, Zare mentioned self-medication, bearable disease, unavailability of the practitioners nearby, and financial issues as the main reasons for not referring to clinics. Similarity among these results is notable.

More than 98% of referrals to clinics could receive services they needed, which indicates good service provision by the clinics. As the results further indicated, 35.12% of the referrals had consulted with a general practitioner before visiting the specialists and 85.4% of the general practitioners were part of the urban family physician program. Probably, the patients only visited the general practitioners to secure the referral note and enjoy discounts on visiting the specialist.

In this study, as well as those conducted by Pourreza and Ebadifard

far Azar, the private office of the specialists was the first place that patients tended to refer.<sup>17,24</sup> Probably, this is due to faster services offered in a specialist's private office. Even for the patients from other cities that spent an additional RIs.100000 for traveling to Shiraz, a specialist's private office was the first place to refer.

A significant relationship was found between feeling the need and variables of age, gender, marital status, and occupation. While no significant relationship was found between feeling the need and variables of nationality and economic condition. Furthermore, the rate of referral to a specialist among those who needed the services was significantly related to complementary insurance coverage rather than economic condition, health insurance coverage, family physician program, education, and place of living. These results are in the same line with those of Pourreza, et al. concerning age, gender, marital status, occupation, and having health insurance coverage.<sup>17,24,26,27</sup>

In conclusion, as the results indicated, 24.21% of the study population needed medical attention of a specialist and 83.26% of them received the services. In spite of the need for outpatient services of specialists, 16.74% failed to receive the services. The main reasons for not referring to a specialist were financial problems, the unavailability of the practitioners nearby, and heavy costs of the medical services.

Furthermore, the survey of medical health system of the country showed that distribution of physicians in the country was not homogeneous. Therefore, the majority of the specialists are in the capital of the country and five large cities. This makes visiting a specialist too problematic for those who living in small cities and remote areas, because they have to pay high cost for transportation and accommodation. Therefore, it is necessary to improve access of different social groups to essential medical attention offered by specialists without hospitalization.

Recommendations regarding expensive services and financial problems to pay the expenditures:

1. Proper and effective implementation of the urban family physician program is a good way to reduce the costs for visiting specialist physicians. To achieve this goal, general practitioners should have enough skill in referring the patient to the right specialist. Also, there must be no relevance between monthly referral to the physician and the money they receive.

2. As the results indicated, the main referrals to specialists in Shiraz and other cities were in the private office of specialists. Therefore, the private sector can be motivated to provide specialized medical services for lower charges by implementing family physician program properly and without any delay in payment of

the physicians' salary.

3. Increase of insurance coverage and motivating the private sectors to have contract with insurance companies will help to cut the charges directly paid by the patients.

**Author's contribution:** *All authors had an equal role in this study.*

**Financial Disclosure:** *The authors declare no financial disclosure.*

## Funding/Support

*The present article was adapted from Research No 91-6279 which was approved and supported by the deputy of research, Shiraz University of Medical Sciences, Shiraz, Iran.*

## Acknowledgments

*The authors would like to thank all the supervisors as well as the readers of the present study.*

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