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Level of Familiarity and Attitude of the Covered Population Regarding the Criteria and Requirements of Iran's Urban Family Physician Program

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ABSTRACT

BACKGROUND AND OBJECTIVE: In the health care system, if the service recipients are familiar with the provided services and the defined criteria and gain a positive attitude, they can help the health team to improve the effectiveness of health interventions while having all the provided benefits in the shortest time possible. The present study was conducted to determine the level of familiarity and attitude of the covered population regarding the criteria and requirements of urban family physician program.

METHODS: This cross-sectional study was conducted in winter 2016 among the population covered by the urban family physician program who were randomly selected through cluster sampling. There were 10 households in each cluster, and in each household one person over 20 years of age was questioned. The data were collected and evaluated using a researcher-made questionnaire including two parts of individual variables, and familiarity with the program's criteria and requirements using 34 open-ended and closed-ended questions.

FINDINGS: Of 1769 surveyed people, the level of familiarity with the urban family physician program in 551 people (31.1%) was low, in 695 people (39.3%) was moderate, and in 523 people (29.6%) was high. 846 people (56.1%) had a positive attitude and 663 people (43.9%) had a negative attitude toward the criteria and requirements of the program. Eight personal and social variables were effective in the level of familiarity and six variables were effective in the attitude level of individuals ($p<0.05$).

CONCLUSION: The results of the study showed that more than 50% of the covered population had familiarity and positive attitude toward the family physician program, while some of the individual and social variables were also effective.

KEY WORDS: *Level of familiarity, Attitude level, Urban Family physician, Fars and Mazandaran provinces*.

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Introduction

Any health care system is established based on a certain structure and framework, and its executive regulations may cause differences from a very limited level to very extensive levels (1). The urban family physician program, whose version 02 was performed in two provinces of Fars and Mazandaran in Iran (2), has similarities with the former health center, the family physician and rural insurance programs, but is also significantly different from the units mentioned, and the covered population will be required to comply with some of its executive regulations. Naturally, if the service recipients are familiar with the provided services and the defined criteria and gain a positive attitude, they can help the health team to improve the effectiveness of health interventions while having all the provided benefits in the shortest time possible (3). However, despite the importance of familiarizing people with the correct implementation of health programs and maintaining its successes (4,5), studies show that this issue has not been taken seriously by healthcare managers and administrators. In a study conducted in northern provinces of Iran, of 1081 insured people over the age of 20, the level of familiarity in 33 people (3%) was good regarding the rural family physician program, in 416 people (38.5%) was moderate and in 632 people (58.5%) was poor, and there was a significant relationship between gender, age, education level and level of familiarity (6). In a study that evaluated the level of familiarity with the implementation of the family physician program among 1100 villagers in Shahrekord, the level of familiarity in 1.3% of people was at a high level, in 14.5% of people was good, in 53.4% of people was moderate and in 30.9% of people was poor (7).

In the study of Shams et al., the mean level of familiarity of 400 people with the referral system was 59.2 out of 100, and the level of familiarity in 7% of people was very poor, in 37% of people was poor, in 31% of people was moderate and in 25% of people was good (8). In this study, the familiarity and behavior of 1257 people in Shiraz regarding the rules and benefits of the family physician program were evaluated. The level of familiarity of people was 5 ± 2.7 out of the total 19 score and level of familiarity in 1121 people (89.2%) was at poor levels (9). Regarding the implementation of the urban family physician program in the provinces of Fars and Mazandaran, although measures might have be taken to inform people to increase their level of familiarity with the implementation mechanisms, there is no comprehensive review of its results and effectiveness. The Call Center Unit, which was launched along with the program at the health center of each city with the phone number 1590 to answer the citizens' common questions about the implementation of the urban family physician program and to address their complaints, lacks a register system for assessing the level of familiarity of people with the urban family physician program (10). Considering the importance of familiarity and attitudes of people in accepting the services provided by the urban family physician program and its impact on the improvement and effectiveness of health interventions, this study was conducted to determine the level of familiarity and attitude of the covered population about the criteria and requirements of the urban family physician program.

Methods

This cross – sectional study was carried out in the winter of 2016 after being apporved by the Ethics Committee of Babol University of Medical Sciences with the code of ethics IR.MUBABOL.REC.1397.032 in over 20,000 cities in Fars and Mazandaran provinces. Considering the formula for estimating sample size, 95% confidence interval, coverage of 90% of the population (0.9), and accuracy of 0.02, 864 households were calculated for each province, and this number of households was divided into 10 household clusters based on the recommendation of the World Health Organization and the model of the national demographic and health survey (DHS), and was distributed considering a slight overestimation. The cluster heads of the urban area of each city were randomly selected using the latest household census data from the health center of that city. Data were collected using a researcher-made questionnaire containing three parts: A. 17 personal and social

variables (province and city of residence [academic/ non-academic], urban population of the place of residence, gender, age, education, marriage, occupation, history of referral to family physician, number of household members, supplementary insurance, members with chronic illnesses, distance between home and health center on foot, history of changing the physician, selection of family physician, acceptability of family physician); B. Familiarity with the family physician program (with 13 closed-ended 2–3 – option questions with a maximum of 14 points); and C. Attitudes toward the urban family physician program (with two closed-ended questions with Likert scale) were collected. Its validity was superficially confirmed by applying the opinion of eight scholars and experts in this field, including four insurance experts, two family physicians and two health experts and its reliability was confirmed by Cronbach's Alpha 91%. Data were collected by referring to houses of the households covered by the family physician program by interviewing one of the available household members who had the most information about their household coverage situation in the urban family physician program (over 20 years old, preferably the head of household).

The level of attitude was coded with a five-point Likert scale (fully agree = 5, agree = 4, without comment = 3, disagree = 2, and fully disagree = 1). According to the conducted studies (5), the total level of familiarity of people was divided into three levels of low (less than 40% of total familiarity), moderate (between 40 and 60% of total familiarity), and high (more than 60% of total familiarity). The attitude level was also divided into two groups: the positive attitude (agree and fully agree) and the negative attitude (disagree and fully disagree), and those who did not have the opinion were excluded as a group with a neutral attitude in the analysis. Data were analyzed by Chi-Square test for nominal qualitative variables, Spearman test was used for determining the correlation between ranked variables and Stepwise Backward Logistic Regression Model was used for the categorical variables of the two groups in SPSS 23 software, and $p<0.05$ was considered significant.

Results

Of the 1769 surveyed people, 897 people (50.7%) were from Fars province and 872 (49.3%) were from Mazandaran province. The mean age of residents of Fars province was 44.9±14.5 years and the residents of Mazandaran province was 47.3±14.4 years (Table 1). In general, the level of familiarity with the urban family physician program in 551 people (31.1%) was low, in 695 people (39.3%) was moderate, and in 523 people (29.6%) was high. In Fars province, the level of familiarity in 278 people (31.0%) was low, in 354 people (39.5%) was moderate, and in 265 people (29.5%) was high. In Mazandaran province, the level of familiarity in 273 people (31.3%) was low, in 341 people (39.1%) was moderate, and in 258 people (29.6%) was high. There was no significant difference between the level of familiarity and the province of the studied people (Table 2).

For data analysis, data were simultaneously analyzed by bivariate analysis that included all the 17 variables in multistage multivariate analysis of variance (Backward LR), and the significant relationship between eight variables and the level of familiarity as well as six variables with the attitude level was confirmed.

In multistage multivariate analysis of variance with ten stages of testing, eight variables were ultimately confirmed as influential factors in the level of familiarity of the population covered by the urban family physician program, and the other nine variables included the number of household members, supplementary insurance, family members with chronic illnesses, occupation, distance between home and workplace of family physicians on foot and by vehicle, the province of residence, the city of residence (academic/non-academic), and the history of changing the family physician were omitted as non-effective factors in the level of familiarity (Table 3). Moreover, in multistage multivariate analysis of variance with 12 stages of testing, six variables were finally confirmed as effective factors in the attitude level of the population covered by the urban family physician program and 11 other variables were omitted as non-effective factors in the attitude level.

Table 1. Personal and social characteristics of the people under study in Fars and Mazandaran provinces

Frequency	Personal and social variables	Fars N(%)	Mazandaran N(%)	Total N(%)
Gender	Male	238(26.9)	222(25.8)	460(26.3)
	Female	651(73.1)	639(74.2)	1290(73.7)
Marital status	Single	160(18.3)	112 (13.3)	272 (15.8)
	Married	716(81.7)	733 (86.7)	1449(84.2)
Level of Education	Illiterate	57 (6.4)	104 (12.2)	161(9.2)
	The ability to read and write to the fifth grade of elementary school	188(21.1)	161 (18.9)	349 (20.0)
	Middle school	157(17.6)	116 (13.6)	273 (15.6)
	High school	51 (5.7)	35 (4.1)	86 (4.9)
	High school diploma	246(27.5)	269 (31.5)	515 (29.5)
	University education	194(21.7)	169 (19.8)	263 (20.3)
Occupation	Government employees	30 (5.7)	48 (5.7)	78 (4.5)
	Employed in factories and private sector	20 (2.4)	20 (2.4)	40 (2.3)
	Self – employed	131(14.8)	130 (15.4)	261 (15.1)
	Retired	88 (9.9)	86 (10.2)	174 (10.1)
	Housewife	581(65.6)	533 (63.2)	1114(64.4)
	Other	36 (4.1)	27 (3.2)	63 (3.6)
Urban population of the city	20 to 50 thousand people	103(11.5)	108 (12.4)	211 (11.9)
	50 to 100 thousand people	117(13.0)	186 (21.3)	303 (17.1)
	100 to 200 thousand people	172(19.2)	–	172 (9.7)
	Over 200 thousand people	505(56.3)	578 (66.3)	1083(61.2)
History of general referral to family physician	Never	33 (3.7)	66 (8.2)	99 (5.9)
	Once	40 (4.5)	45 (5.6)	85 (5.0)
	Once a year	75 (8.5)	73 (9.1)	148 (8.8)
	Once every six months	183(20.7)	132 (16.4)	315 (18.7)
	Once every three months	306(34.6)	270(33.6)	546 (34.1)
	Every month	247(27.9)	218(27.1)	465 (27.5)
Frequency of changing the family physician	Not changing	601(64.4)	637(73.4)	1238(70.3)
	Once	204(22.9)	207(23.8)	411 (22.4)
	Twice or more	87 (9.8)	24(2.8)	111 (6.3)
Selection of family physician	With prior knowledge and personal desires	583(65.4)	455(52.4)	1038(59.0)
	Without prior knowledge and personal desires	309(34.6)	413(47.6)	722 (41.0)
Family members accepted the physician	Accepted completely	576(64.8)	544(62.7)	1120(63.8)
	To some extent	310(34.9)	320(36.9)	630 (35.9)
	Did not accept	3(0.3)	3(0.3)	6 (0.3)

Table 2. Level of familiarity and attitude of household members regarding the criteria and facilities of the urban family physician program in Fars and Mazandaran Provinces

Items of familiarity	Place of residence	Fars N(%)	Mazandaran N(%)	Total N(%)	P-value
Knowing the family physician's first name or last name	Knew	805(90.2)	763 (87.9)	1568(89.1)	0.000
	Didn't know	87(9.8)	105 (12.1)	192 (10.9)	
Knowing the health professional's first name or last name	Knew	307(34.7)	255 (29.4)	562 (32.1)	0.011
	Didn't know	579(55.2)	612 (70.5)	1191(67.9)	
Knowing that they have at least one substitute family physician	Knew	480(54.2)	387 (44.7)	867 (49.5)	0.000
	Didn't know	405(45.8)	478 (55.3)	883 (50.5)	
Knowing the first name or last name of the substitute family physician	Knew	358(41.2)	287 (33.9)	645 (37.6)	0.001
	Didn't know	510(58.8)	559 (66.1)	1069(62.4)	
Knowing the address of the substitute family physician	Knew	392(45.4)	295 (35.0)	687 (40.2)	0.000
	Didn't know	471(54.6)	549 (65.0)	1020(59.8)	
Knowing the shift or working hours of the urban family physician	Knew	751(85.0)	676 (78.4)	1427(81.7)	0.000
	Didn't know	133(15.0)	186 (21.6)	319 (18.3)	
Knowing that visiting the urban family physician is free *	Knew		834(96.2)	834(96.2)	
	Didn't know		33(3.8)	33(3.8)	
Knowing that injections, bandages and saline solution are free	Knew	364(42.7)	489(56.4)	853(49.6)	0.000
	Didn't know	489(57.3)	378 (43.6)	867 (50.4)	
Knowing the visit cost of the specialist (with referral form)	Knew	622(70.5)	452 (52.0)	1074(61.3)	0.000
	Didn't know	262(29.5)	417 (48.0)	679 (38.7)	
Knowing that the family physician has the health records of household members	Knew	700(78.7)	732 (84.3)	1432(81.5)	0.001
	Didn't know	190(21.3)	136 (15.7)	326 (18.5)	
Knowing the location of receiving emergency services after 8 pm	Knew	397(44.8)	343 (39.8)	740 (42.4)	0.030
	Didn't know	489(55.2)	518 (60.2)	1007(57.6)	
Knowing the phone number of the Call Center	Knew	94 (10.5)	51 (5.9)	145 (8.3)	0.000
	Didn't know	794(89.4)	814 (94.1)	1608(91.7)	
Familiarity with the Call Center's duties and assistance	Completely familiar	27(3.1)	5(0.6)	32 (1.8)	0.000
	Somewhat familiar	24(2.8)	12 (1.4)	36(2.1)	
	Unfamiliar	821(94.2)	841 (98.0)	1662(96.1)	
Attitude level **	Disagree	415(43.3)	248 (28.4)	663 (37.5)	0.000
	No comment	84 (9.3)	176 (20.2)	260 (14.7)	
	Agree	398(44.4)	448 (51.4)	864(47.8)	

*** In Fars province, visiting the family physician was not free. ** 23.3% of the people disagreed with the necessity that each citizen should have a family physician and 36.5% disagreed with the necessity of level 2 referral only with the family physician referral. There was a significant relationship between the level of familiarity and the attitude level of the subjects and the province of residence. There was a significant direct correlation between level of familiarity and attitude level ($p < 0.005$).**

Table 3. Relationship between personal, familial and social variables and the level of familiarity and attitude of people regarding the urban family physician program

Examined variable	Level of familiarity (inadequate / relatively adequate)			Attitude level (disagree / agree)		
	OR (B) Exp	CI-95%	P–value	OR (B) Exp	CI-95%	P–value
Gender (male / female *)	0.697	0.519 – 0.936	0.016			
Age (15-45 years / 46-90 years *)	1.590	1.215 – 2.080	0.001			
Marital status (single / married *)	0.490	0.338 – 0.711	0.000			
Education (illiterate to high school / diploma and university degree *)	0.612	0.468 – 0.801	0.000	1.473	1.133–1.914	0.004
Referral records (no referrals to once every six months / seasonal and monthly visits *)	0.424	0.324 – 0.557	0.000			
Family physician selection (with prior knowledge / without prior knowledge *)	2.956	2.251 – 3.881	0.000			
Family physician acceptance (fully accepted / fairly accepted *)	2.069	1.562 – 2.742	0.000	2.587	1.967 – 3.403	0.000
Urban population of the place of residence (less than 100,000 people / over 100,000 people *)	0.689	0.522 – 0.910	0.009	2.627	1.931 – 3.573	0.000
Province of residence (Fars / Mazandaran *)				0.579	0.442–0.758	0.000
History of changing family physician (had / did not have *)				1.549	1.169–2.054	0.000
Distance from home to the service location by vehicle (up to 5 minutes / more than 5 minutes *)				2.295	1.720–3.061	0.000

Discussion

In this study, the level of familiarity in the population covered by the urban family physician program was mostly at moderate level (between 40% and 60% of the total required familiarity), which is higher than the study by Motlagh et al. (6). The difference in the results may be associated with the characteristics of the population. In the present study, the population living in cities of over 20,000 people may be different from the rural population in terms of economic, social and cultural levels. In addition, the population of the present study was probably familiar with some insurance policies because of having basic insurance. A study by Jafarzadeh et al. showed that 17.3% of subjects had good familiarity with the regulations of urban family physician program, 61.5% had moderate familiarity and 21.2% had poor familiarity (11), which is almost consistent with the present study. Torabi Ardakani et al. reported that people did not have proper familiarity with the urban family physician program (12). The inadequate familiarity with the urban family physician program or other health system programs that require the collaboration and support of the people should be considered as a challenge to the program's agenda by executives and administrators. That's because inadequate familiarity may reduce benefiting from some essential services or insist on some unnecessary services

outside the criteria. Experience in Thailand showed that the implementation of family physician training programs has a significant role in increasing the level of public familiarity and can even have a positive impact on referral quality (13). However, it should be noted that raising familiarity should not only focus on the population covered solely as service recipients. Officials, representatives of governmental and non-governmental organizations, including charity organizations and NGOs should also be aware of the regulations of the family physician program and its implementation criteria. That's because we have seen several times that these people raise unnecessary protests and even expose them in media because of the lack of familiarity, which can impose a challenge on the correct implementation of the program. In their study, Asharfian Amiri et al. showed that the higher the level of familiarity of people with the rural family physician program, the higher the satisfaction and participation of people in the implementation of the program (14). The findings of the present study regarding people's attitudes toward the regulations of the urban family physician program showed that less than half of the subjects agreed to the implementation of the urban family physician program, which is partly consistent with the study of Jabari et al. (15).

In the present study, there was a significant direct correlation between familiarity and attitude, which supports the hypothesis of learning and behavioral change, according to which after becoming familiar with a subject, individuals gradually find a positive attitude and after gaining a positive attitude, a change in behavior occurs. Following this hypothesis, most studies have shown that the higher the familiarity of people and the more positive the attitude, the higher the demand for preventive health services (16 – 17). The above point should be considered by the executives and administrators of cities, because if they want the people's behavior to change to improve the effectiveness of the family physician program, then they have to increase the familiarity of the people before creating a positive attitude. Creating a positive attitude can be effective in referring to one family physician (not changing the physician). That's because in the present study, positive attitudes have been shown to be effective in visiting the same family physician. This study also found that people's positive attitudes towards the regulations of the urban family physician program in small cities were 2.5 times higher than larger cities. Accordingly, it is desirable that policymakers expand the implementation of the urban family physician program to other provinces of the country, beginning from smaller and less populous cities, and if minimum achievements are obtained, in metropolises in a period of 10 – 20 years.

In the present study, the positive attitude of people who fully accepted their family physician was about 2.5 times more than others, and short distance to the family physician's office has played a major role in people's attitudes. The above finding highlights the importance of informed choice and faster access to services for people, while forcing people to have a physician whom they are not interested in, and locating physicians in places away from people's places of residence, and sometimes in over-crowded areas may be effective in reducing public acceptance. This study showed that there was a significant difference between the attitude and the province of residence, indicating the more positive attitude of the population covered by Mazandaran province. The necessity of level 2 referral only with the family physician referral in Fars province could be one of the reasons. That's because people think they do not have any option or freedom of action and they are restricted in such execution rules.

In this study, there was a significant relationship between education, age, and familiarity with the family physician program, which is consistent with many studies, including the study of Alidosti et al. (7). The above findings can be attributed to the fact that individuals with higher education can obtain the necessary information from different ways, especially through written sources, and remember them for a longer period. The inverse relationship between age and familiarity is due to the fact that younger people and those in the first half of middle age have higher level of education. The above issue should be taken into consideration by administrators and executors of the cities to spend more time in raising the level of

familiarity in people of illiterate or low-literacy groups as well as older ages. This study showed that the level of familiarity of women was significantly higher than that of men. This finding is likely to be due to the higher number of women who refer to health care units and subsequently receive information from health care centers. Most of the studies indicated the higher number of women compared to men who refer for health services (18).

In this study, a large percentage of the population over the age of 20 had a positive attitude and familiarity with the family physician program. However, despite the development of new facilities and the provision of free services at the first level of the network system and the establishment of facilities for the provision of services at level 2, a percentage of the population did not have positive attitude towards the family physician program. Therefore, it is suggested that interventional measures be designed to increase the level of familiarity and change the people's attitudes towards the criteria and requirements of the family physician program. One of the limitations of the present study is that when we referred to the households' home women answered the questions, since men were usually at work during the day and were less covered.

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