Original Article

Family physicians’ attitude and interest toward participation in urban family physician program and related factors

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Abstract

Introduction: Every family physician has a key role in achieving the goals of the family physician program (FPP). Low satisfaction of physicians in certain areas of Iran and their low maintenance level in the program is quite challenging. The aims of the present study were: (1) to assess the attitude of rural/rural-urban family physicians about FPP and (2) to investigate their interest toward participation in urban FPP and (3) to explore the influencing factors. Methods: This cross-sectional study was performed on 137 family physicians who were working in rural/rural-urban FPP in Mashhad University of Medical Sciences (Iran). A self-designed valid and reliable questionnaire including demographic data and thirty questions on the participants’ attitudes toward the FPP in Likert scale were used. Data were analyzed by multiple logistic regression models using SPSS software. Results: 49.3% of physicians were interested in continuing their cooperation in the urban-FPP. The mean total attitude score was 62.18 out of 100. The highest agreement and positive attitude of physicians were related to achievements of the program goals dimension. Multiple analyses showed that gender (odds ratio [OR] = 5.5; male vs. female) and employment status (OR = 16.7 and 10.9 for permanent employment and by contract compared to legal obligation, respectively) were significantly associated with physicians’ willingness toward participation in the urban-FPP. Conclusion: About half of the studied physicians were interested toward participation in the urban-FPP; Male physicians more than females and permanent employees more than others were willing and interested to participate in the urban-FPP.

Keywords: Attitude, family medicine, family physician program, Iran

Introduction

The most important goal and duty of each health-care system (HCS) are promotion of the population’s health.¹ In this respect and to increase the performance level and its efficacy, provide better equality and better accessibility of the public to health-care services, like most other countries, the public sector of the HCS in Iran is also divided into three levels of primary, secondary, and tertiary health care.² Primary health care (PHC) services are the first contact level of patients and their families with the HCS. PHC is an important and vital part of each HCS that has dramatic effects on the economy and social development of the country and on the people's individualized performance.³ In many countries, the HCS is organized in the chart of the family physician program (FPP), in which a network of general practitioners, specialists, and subspecialists provide health and medical services to the patients in need.⁴ In Iran, the FPP was established in 2005.
in rural areas and towns with <20,000 populations. Similar to many other countries with the FPP, the execution, provision, and management of health-care services in the first level is the responsibility of the family physician team. This team is consisted of a physician (usually a general practitioner), one nurse or midwife, and laboratory and pharmacy services. The head of the team is a physician who is responsible for providing contentious care and management besides monitoring the performance of the health-care team under his supervision. Since family physicians have a key role in achieving the goals of FPP and since 10 years has passed from the execution of the program in rural areas of Iran, evaluation of the family physicians’ attitude toward different dimensions of this program seems essential.

Few published studies from other parts of Iran have reported a relatively good performance for FPP. The results of one study in Iran showed that family physicians were not satisfied with the performance of health center headquarters in the city, specialist physicians in the second level of PHC, and people who had rural insurance. One of the reasons for this dissatisfaction was the physicians’ low salary and failure of the HCS to pay it on time. In Wong et al. study on the performance of family physicians in Canada, geographical and environmental factors along with physical resources were important factors in determining the contribution of family physicians in the FPP and their satisfaction rate. Other international studies have highlighted the excessive workload, time pressure, paperwork, bureaucracy, and lack of control systems as the main concerns.

It seems that because of physicians’ low satisfaction rate in some parts of Iran and low level of physicians’ maintenance in the program, the program execution is challenging not only in rural areas but also in the urban areas of our country. It is obvious that the positive attitude of physicians working in FPP in rural areas could increase the general practitioners’ interest for participation in the urban-FPP and consequently facilitate the achievement of FPP goals. The aims of the present study were (1) to assess the attitude of rural/rural-urban family physicians of north east of Iran (Mashhad) about FPP and (2) to investigate their interest toward participation in urban FPP, and (3) to explore the influencing factors.

Methodology

This cross-sectional study was performed on the physicians working in the rural/rural-urban FPP in Mashhad. Mashhad is one of the most well-known metropolitan cities of Iran which is located in the northeast of the country. The study population consisted of all physicians working in the rural/rural-urban FPP centers of Mashhad University of Medical Sciences (MUMS). Based on the available documents, 137 family physicians were working in the rural/rural-urban FPP of MUMS, which were all included in the study. The research protocol was reviewed and approved by the Human Subjects’ Protection Committee of MUMS, Iran. The study tool for collecting data and assessing the attitude was a self-designed questionnaire, specially prepared for this study. In a systematic search, all studies and documents related to the study topic were reviewed. Furthermore, all opinions and suggestions of experts in the fields of research, and FPP were implied to further promote the questionnaire’s quality.

The questionnaire was designed into two sections: demographic questions, and thirty questions about the participants’ attitudes toward the FPP including the achievement of program goals (13 questions), how the program was implemented (10 questions), suitability of the trainings offered by the university with the FPP goals (2 questions), the method of physicians evaluation (5 questions), and one question regarding their interest for participation in the urban-FPP. All questions were designed in the Likert scale (scored by agree, no comment, and disagree), and the total score ranged from 30 to 90. In the next step, the total score regarding each FPP dimension was calculated and standardized, resulting in a score range of 0–100 in each of the three dimensions.

The validity of the questionnaire was determined by the content validity method; for this purpose, it was initially assessed by a few experts, and after correction, the content validity index was estimated as 0.87. The reliability of the questionnaire was assessed as 0.80 by Cronbach alpha showing a relatively good status in terms of reliability. The questionnaires were distributed by those responsible for physicians’ evaluation from March to August 2014 among all physicians working in rural/rural-urban FPP of MUMS; the response rate was 100%.

The collected data were then analyzed by the SPSS software version 16.0 (SPSS Inc., Chicago, Illinois, USA). The study variables based on their type, qualitative, or quantitative were described by mean, standard deviation, and frequency indices. To estimate the odds ratio (OR) and by considering a 95% confidence interval for physicians’ interest for participation in FPP in urban areas as well as controlling the confounding factors, multiple logistic regression models were used. Variables with a significance level <0.2 in univariate analysis were inserted into the model. α <0.05 was considered as the significance level in all statistical analysis.

Results

The physicians’ age ranged from 25 to 89 years. The median and mean length of participants’ contribution in the FPP was 6 and 4.79 years, respectively. The majority of participants were married and worked by contract in rural health centers [Table 1]. Regarding interest for continuing cooperation in the urban-FPP, 49.3% were interested, 25.4% were not interested, and 25.4% did not have any special opinion in this regard. The mean total attitude score was 62.18 ± 10.02 (from 100), and the mean range of questions’ score was 2.1–4.1. The mean attitude score related to the dimension of program goals achievement, family physicians evaluation in the program, the quality of program execution, and the appropriateness of the provided university education with the program goals were 69.22 ± 13.15,
Table 1: The demographic characteristics of participants in the study

| Variable                  | Mean±SD or n (%) |
|---------------------------|-----------------|
| Age                       | 36.50±8.82      |
| The length of work in FPP | 4.79±2.91       |
| Gender                    |                 |
| Male                      | 53 (39.6)       |
| Female                    | 81 (60.4)       |
| Work in health center     |                 |
| Rural                     | 77 (59.2)       |
| Urban-rural               | 53 (40.8)       |
| Marital status            |                 |
| Unmarried                 | 21 (15.6)       |
| Married                   | 114 (84.4)      |
| Employment status         |                 |
| Permanent                 | 17 (12.7)       |
| By contract               | 92 (68.7)       |
| Legal obligation          | 25 (18.6)       |

FPP: Family Physician Program; SD: Standard deviation

62.25 ± 9.8, 55.22 ± 11.43, and 54.18 ± 18.28, respectively. The percentage of physicians’ agreement and attitude for each of the aforementioned questions is demonstrated in Table 2. Based on the results, the highest agreement and positive attitude score of physicians belonged to one of the questions in the “achievement of program goals” dimension, whereas the least agreement and positive attitude score were obtained for one of the questions in the “program evaluation” dimension. Most physicians (90.5%) believed that implementation of FPP increased coverage of the high-risk groups while only a few participants (11.9%) agreed that the questions in the physician evaluation checklist complied with their job description [Table 2]. Our findings showed that in general a positive attitude existed among physicians on the achievement of program goals in a way that a considerable number of participants believed that the program implementation increased coverage of high-risk groups (90.5%), increased referral for receiving health-care services (89.3%), and regarding treatment (88.8%), facilitated accessibility to health-care services and better treatment (86.8%), besides improving the quality of prevention and the provided care services (80.9%). More than 66% of the participated physicians believed that FPP was a proper solution for reducing the families’ health costs while 56.7% thought that this program is a suitable way for reaching fairness in health. With respect to the FPP evaluation and assessment results, 83.9% of physicians thought that questions in the physician evaluation checklist are mostly focused on evaluating theoretical and quantitative indices, and only 12.4% believed that the questions are also related to practical and qualitative indices. In addition, more than 80% agreed with the presence of one physician in the family physician team. While 10.3% did not have any opinion about the family physician evaluation method, 51.5% believed that base of the evaluation is only completing the relevant forms. Given the relationship between FPP implementation and increased satisfaction among people receiving health-care services in the first, second, and third levels, 54.1%, 36.6%, and 26.3% had a positive attitude, respectively [Table 2]. Although 65.4% considered the therapeutic role of physicians in FPP as essential, 42.1% believed that the physician’s role in this program is mostly managerial. Considering the clarity of the role of public health insurance in FPP, 20.1% had a positive view while 36.6% did not have any opinion. Regarding the time allocated to family physicians, 69.4% did not have a positive view. Moreover, only 33.1% of participants thought that the medical education courses during university had provided them with proper skills for practicing in the FPP, whereas 42.5% agreed that their training programs were appropriate for participating in this program.

In univariate analysis, total attitude score, marital status, employment status, gender, and duration of contribution in FPP with a <20% probability were effective in the participants’ willingness to continue their cooperation in the urban-FPP. Multiple analyses revealed that the simultaneous presence of all variables changed and modified their effect on physicians’ interest for participation in the program [Table 3]. It means that age, total attitude score, and the length of contribution in FPP did not have a considerable effect on the physician’s willingness in this respect. However, gender, marital status, employment status, and workplace were effective factors on physicians’ willingness for participation in the urban-FPP. On the other hand, after controlling other variables, the odds of willingness of physicians who worked as permanent employees or by contract were more than those who worked as legal obligation (16.7 and 10.9 times higher, respectively). In the same way, the odds of willingness of male physicians compared to females, and married physicians compared to singles (with control of other variables) was 5.5 and 1.6 times higher respectively; yet indicating no statistically significant effect for marital status. Physicians working in rural centers compared to rural-urban centers had twice higher odds of willingness for participation in the program although the difference was not statistically significant (P = 0.281).

Discussion

Implementation of FPP by the Ministry of Health and Medical Education throughout the country is part of the fourth development program in Iran. Based on this program, all basic health services must be delivered to the public by general practitioners working in this program. In the present study, the total attitude score of participants, whether working in rural or rural-urban centers, was 62.18 out of 100 and in general the mean scores’ range for attitude questions was 2.1–4.1. Similar studies performed in other countries also confirm our results. In a study with similar goals performed on medical students in Spain, the participants’ mean attitude score for each item was 3.44. A Turkish study showed the mean attitude score to be 3.14–4.17.

Based on the findings related to the attitude score of physicians participating in the study for each studied dimension, it seems that the success rate of rural and rural-urban FPP in achieving their defined goals was satisfactory. The studies conducted in different parts of Iran confirmed this finding and reported a good
Table 2: Agreement percentage of physicians (attitude) with any of questions in the questionnaire

| Dimensions and questions                                                                 | Disagree, n (%) | No comment, n (%) | Agree, n (%) |
|------------------------------------------------------------------------------------------|-----------------|-------------------|-------------|
| Achievement of FFP goals                                                                 |
| FPP implementation improves quality of preventive and care services                      | 18 (13.2)       | 8 (5.9)           | 110 (80.9) |
| FPP implementation improves quality of treatment services                                | 24 (17.6)       | 22 (16.2)         | 90 (66.2)  |
| FPP implementation facilitates accessibility to care and treatment services             | 13 (9.6)        | 6 (4.4)           | 117 (86.8) |
| The implementation of referral system in FPP reduced patients confusion                 | 64 (47.4)       | 20 (14.8)         | 51 (37.8)  |
| FPP provides the opportunity of people participation in health promotion                | 48 (36.0)       | 32 (23.6)         | 55 (40.4)  |
| FPP implementation increased coverage of high-risk group                                 | 4 (2.9)         | 9 (6.6)           | 124 (90.5) |
| FPP implementation increased people referral for receiving health-care services         | 8 (8.1)         | 6 (4.6)           | 117 (89.3) |
| FPP implementation increased people referral for receiving therapeutic services         | 4 (3.0)         | 11 (8.2)          | 119 (88.8) |
| FPP increased satisfaction of people referring for first level health-care services     | 32 (24.1)       | 29 (21.8)         | 72 (54.1)  |
| FPP increased satisfaction of people referring for the second level health-care services | 60 (44.8)       | 25 (18.7)         | 49 (36.6)  |
| FPP increased satisfaction of people referring for the third level three health-care services | 56 (42.1)     | 42 (31.6)         | 35 (26.3)  |
| FPP implementation is a proper solution for achieving “health equity” goal              | 30 (22.4)       | 28 (20.9)         | 76 (56.7)  |
| FPP implementation is a proper solution for reducing families health costs               | 23 (17.3)       | 21 (15.8)         | 89 (66.9)  |
| Appropriateness of the provided university education                                     |
| The present physician training is suitable for providing care in FPP                     | 73 (54.5)       | 16 (11.9)         | 45 (33.6)  |
| Medical curriculum provided me with required skills for working in FPP                  | 74 (55.6)       | 15 (11.3)         | 14 (33.1)  |
| Family physicians evaluation in the program                                             |
| The base of family physicians evaluations is form completing                            | 52 (38.2)       | 14 (10.3)         | 70 (51.5)  |
| The questions in family physicians’ monitoring checklist are consistent with my job description | 104 (77.0)   | 15 (11.1)         | 16 (11.9)  |
| The questions in family physicians’ monitoring checklist mainly assess quantitative and theoretical indicators | 11 (8.0)      | 11 (8.0)          | 115 (83.9) |
| The questions in family physicians’ monitoring checklist mainly assess qualitative and practical indicators | 96 (70.1)     | 24 (17.5)         | 17 (12.4)  |
| The family physician monitoring team have at least one physician                       | 9 (6.6)         | 18 (13.1)         | 110 (80.3) |
| Quality of FFP execution                                                                |
| The job description of family physicians is consistent with available facilities in centers | 98 (73.1)      | 12 (9.0)          | 24 (17.9)  |
| In FPP physicians have more therapeutic role                                           | 39 (29.3)       | 7 (5.3)           | 87 (65.4)  |
| In FPP, physicians have more health management role                                     | 62 (46.6)       | 15 (11.3)         | 56 (42.1)  |
| The role of each of health team member in FPP is specified                               | 54 (40.6)       | 27 (20.3)         | 52 (39.1)  |
| The role of health insurance organization in FPP is specified                           | 58 (43.3)       | 49 (36.6)         | 27 (20.1)  |
| The paraclinical facilities in FPP are appropriate                                      | 83 (61.0)       | 12 (8.8)          | 41 (30.1)  |
| The pharmaceutical facilities of FPP are appropriate                                    | 59 (43.4)       | 16 (11.8)         | 61 (44.9)  |
| The place considered for health team is appropriate                                     | 42 (31.3)       | 25 (18.7)         | 67 (50.0)  |
| The time considered for family physician is appropriate                                  | 93 (69.4)       | 12 (9.0)          | 29 (21.6)  |
| The price considered for family physicians’ service package is appropriate              | 76 (56.3)       | 15 (11.1)         | 44 (32.6)  |

FPP: Family physician program

Furthermore, the satisfaction of care receivers and patients referred to the FPP,[13,16] improvement in mother and infant health indexes,[17] increased accessibility and provided health services,[18] reduced unnecessary referral to upper levels of health services, and reduced heavy costs,[19] all confirm the success of FPP in achieving its goals in Iran. On the other hand, findings of certain studies have shown that follow of the referral system’s rules, appropriate feedback by specialists to family physicians and patients return rates to the first PHC level were not as anticipated.[7,20]

One of the important factors guaranteeing the success of each action plan in HCSs is the satisfaction of service providers; ignoring this fact will harm the quantity and more importantly the quality of such services. In Motlagh et al. study, the family physicians were not satisfied regarding the performance of health center headquarters of the city, specialists in the second level, and people who had rural insurance due to low payment and failure of the system to deliver the payments on time.[7] Raeesi et al. also reported similar results.[23] However, in a study in Yasouj surveying the opinion of family physicians working in the Emdad/Relief Committee, more than 78% of them were pleased with the FPP and encouraged its continuation.[21] In Alidoosti et al. study, most service recipients were satisfied with the FPP and those who had less knowledge about the program were more pleased with it.[18] In Wong et al. study on family physicians’ performance in Canada, factors related to geography, environment, and physical equipment were important factors in determining physician’s participation in the program and their satisfaction.[8] Such dissimilarities in the findings of different studies are probably due to the difference in income and financial advantages, complexity of the work, environmental factors in the region, and the quality and quantity of various supports delivered by higher officials of the program in different countries.
The family physicians dissatisfaction reduces physician participation in the FPP. The results of several studies have shown that the mean duration of physicians’ cooperation with FPP in health centers of Khorasan-Razavi province was 26 months,[23] whereas it was 32 months in the Northern provinces.[7] It seems that different factors including inappropriate payment conditions, long working hours, inappropriate behavior of the regional people, low job stability, desire to continue education, environmental factors, and high referral rates are the main reasons for physicians’ low duration of cooperation in the FPP. [19,24] Since based on the planned programs, the FPP must be implemented in all towns throughout the country, due to the physicians’ dissatisfaction and low duration of cooperation and maintenance, its implementation will be challenged not only in rural but also in urban areas.

In the present study, more than two-thirds of physicians believed that FPP is a good solution for reducing families’ health costs eventually leading to the goal of health equity in the country. Other studies have also shown that FPP and rural insurance plans somehow reduce unnecessary referral to upper levels and decrease the heavy costs of the second level referrals.[19,21] In a study in Isfahan, the public’s satisfaction regarding costs was 65%.[8]

One of the remarkable findings of the present study was the fact that only one-third of family physicians thought that medical schools trainings provided them with proper skills for working in the FPP, and less than half agreed that their training was appropriate for providing care in the FPP. Similar to our findings, in a study in Yazd, 54% of family physicians reported a very large gap between their theoretical educational courses and the expectations in FPP and also a large gap between their practical trainings and the skills required in FPP.[18] More than 60% of medical students in Spain believed that a combination of special courses and integrated training programs is the best training for FPP, and most of them thought that the best time for these trainings is in the 3rd and 4th year of the medical curriculum. Although some other students believed that training must begin earlier.[9] Other related studies also supported this idea that the basic parts of training for FPP and health care had better to start from the early years of the medical curriculum.[25,26] In a qualitative systematic review conducted in 2012, the authors provided a comprehensive picture of medical students’ attitude toward family practice. They concluded that in spite of the fact that some students find family medicine attractive, it is regarded as a profession of low interest and prestige.[9] The physicians working in FPP in Iran are mainly general practitioners and are not trained properly for FPP; therefore, it seems that appropriate training of family physicians for working in the primary HCS is essential. In several researches performed in other countries including the US and Japan, favorable results were obtained.[27–31]

Taken together, the following issues are recommended for the better execution of the FPP: proper training of physicians as family physicians in the fields of program monitoring and management, specialists training on the referral system and their contribution in FPP, powerful implementation of monitoring systems in local and provincial levels, improvement of referral and follow-up systems, and finally upgrading the health system programs and policies.[32]

Our study and other related studies show that although FPP has had positive effects on patients’ accessibility to PHC, provided health services to public and insurance coverage, but it has not been very advantageous in case finding and their follow-up, the referral process and the feedback quality.[32]

Multivariable analysis showed that physicians, who were male, married, were working in rural centers either with permanent employment or by contract and had greater interest for participation in the urban-FPP; yet the effects of marital status and working place were not statistically significant. The reason for the higher interest of physicians with permanent employment or by contract compared with those working under legal obligation for participation could be related to the low job stability and security in the latter group. A study in Kerman showed that after implementation of the FPP, an increasing number of physicians and midwives quit their job for different reasons including continuing education, environmental issues, the employment status of family physicians, and the low income of those working under legal obligation.[19]

| Variable                          | Crude OR | Crude P  | Adjusted OR | Adjusted P |
|----------------------------------|----------|----------|-------------|------------|
| Age                              | 1.03     | 0.307    | 1.03        | 0.615      |
| The length of working in FPP (year) | 1.29     | 0.003    | 1.11        | 0.5        |
| The total attitude score to FPP  | 1.04     | 0.09     | 0.98        | 0.678      |
| Gender                           |          |          |             |            |
| Female                           | Reference|          |             |            |
| Male                             | 4.35     | 0.003    | 5.57        | 0.015      |
| Marital status                   |          |          |             |            |
| Unmarried                        | Reference|          |             |            |
| Married                          | 4.5      | 0.013    | 1.64        | 0.64       |
| Employment status                |          |          |             |            |
| Legal obligation                 | Reference|          |             |            |
| Contract                         | 6.84     | 0.001    | 10.91       | 0.003      |
| Permanent                        | 23.4     | 0.007    | 16.73       | 0.037      |
| Work in health center            |          |          |             |            |
| Urban-rural                      | Reference|          |             |            |
| Rural                            | 1.17     | 0.73     | 2.06        | 0.281      |

FPP: Family physician program; OR: Odds ratio

Table 3: Factors influencing physicians’ interest to participate in urban-family physician program based on multiple logistic regression analysis
Studies conducted in Canada and other international studies have also reported concerns about the high workload, time pressure, paperwork,\(^9\) bureaucracy, and lack of control systems;\(^10\) these factors could each partly explain the low interest of family physicians of urban-rural areas for participation in such programs. In the same way, single physicians have less interest for participation in the urban-FPP due to the long periods of being far from their family and their certain emotional conditions; the fact that is confirmed by our study results. Considering the finding that age and work duration in the FPP did not affect the physicians’ interest for participation in the urban-FPP, the youth family medicine program in Iran could be the main reason.

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**Conflicts of interest**

There are no conflicts of interest.

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