Review Article

Challenges of Rural Family Physician Policy in Iran

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Abstract

As per the goals of the family physician program, it is essential to pay attention to the effectiveness and performance of FPP. Although the implementation of the FPP program is an important development in the discussion of rural health insurance and the provision of health services and referral systems in the country, the evidence suggests that by identifying challenges and taking appropriate action, this plan can be improved. This study aimed to investigate the challenges of rural Family Physician Policy (FPP) in northern Iran. This study comprised a mixed method. The former intended to identify the challenges of rural FFP using the narrative review method. To achieve a comprehensive list of challenges, a narrative review and content analysis were performed and semi-structured interviews were held with key stakeholders of FPP in the north of Iran, including physicians, managers, and policymakers. Identified challenges were categorized into eight categories including the weakness of the health insurance system, low comprehensiveness of executive guidelines, inappropriate recruitment and maintenance of human resources, weakness of cultural context, low efficacy of health information management system, poor educational effectiveness, inappropriate motivational mechanisms, and weakness of the referral system. As per the quantitative findings, "weakness of the referral system" and "inappropriate recruitment and maintenance of human resources" had the lowest and highest weaknesses, respectively. To address existing challenges in the rural FPP, a comprehensive plan of action should be developed with an emphasis on human resource management, health information management system, comprehensive rural health insurance, and legislation.

Keywords: *Family physician, health services, referral system, rural* FPP*, rural health insurance*

Introduction

Health system reform is a topic of interest worldwide, particularly in developing countries. Such reforms should be based on the basic values and principles of the country.[1] Family physician Policy (FPP) is a prominent reform implemented in several developed countries that its effectiveness is proved in 60 countries.[2] In addition, it is well integrated with principles governing the health system of those countries.[3,4] The FPP follows a health-centered approach to maintain and promote the health of society through providing a predefined package of services to a defined population, with a wide spectrum of demographic, social, economic, and health characteristics.[5]

One of the main components of FPP is the referral system that reduces costs and improves access to specialized services in such a way that creates a two-way exchange of information.[6] In line with the importance of the referral system, it has been argued that 80%-90% of patients can be managed at the primary care level, which means reducing unnecessary visits to secondary and tertiary levels.[7] One of the most important tasks of the family-centered health team is to provide primary services, which is a main component of the FPP.[8] On the other hand, the promotion of health indicators, improving service quality, the satisfaction of people and service providers, cost control, and health equity are considered as the main objectives of FPP.[9]

In their study on barriers to implementing FPP, with emphasis on context, Sheyani *et al*.[10] mentioned being individual-centered, the effect of managerial changes on national priorities, challenges posed by the government's support for the program, cultural challenges, and law abiding. Family physicians act as gatekeepers and decide whether patients need access to more specialized services.[11] FPP is well implemented in developed countries and resulted in poverty reduction and empowering societies, which in turn translates into more health benefits.

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Universal health coverage is the key to promote the health of society and primary healthcare plays a key role in this way.[12] In addition, there are other benefits such as reduced catastrophic health expenditures, assigning a patient to a treatment that optimizes gain, and reducing unnecessary visits.[13] Iran first implemented the FPP more than a decade ago (since 2005) and sufficient time has passed to understand its pros and cons. In this line, following a mixed qualitative and qualitative approach, the present study aimed to evaluate the challenges and problems of the Iran FPP based on evidence collected from the north of Iran.

Methods

This study comprised two qualitative and quantitative parts. The former intended to identify the challenges and problems of rural FPP using the narrative review method. To achieve a comprehensive list of challenges, a narrative review and content analysis were performed and semi-structured interviews were held with key stakeholders of FPP in the north of Iran, including physicians, managers, and policymakers.

In the first step, we searched Scopus, Web of Sciences (ISI), Google Scholar, WOS, and PubMed databases and the national database of SID to identify relevant studies from the time of the inception of these databases (until 2020) using the following keywords: family physician, challenge, weakness, rural, and Iran. The keywords were developed with the assistance of experienced experts. The inclusion criteria included articles published invalid journals and being engaged with the FPP (key stakeholders). On the other hand, the exclusion criteria were unwilling to be interviewed and partially filled out questionnaires. Forty seven studies were selected for the first time. Titles, abstracts, and full papers were screened by two independent reviewers. In case of a disagreement, a consensus was reached through discussion or, if necessary, the third reviewer was consulted. Relevant websites and gray literature from sources such as government agencies, universities, associations and societies, and professional organizations were also searched. Furthermore, experts in the field were contacted regarding recently published or ongoing projects. Finally, 22 studies were selected as eligible studies for content analysis and were coded following an inductive approach by two independent reviewers. An excel spreadsheet was created and used to collate and screen the relevant studies.

The second step was obtaining the opinions of experts by interviewing them. Interviewees were selected using the purposive sampling technique. The inclusion criteria were being experienced in the field of FPP implementation and willingness to participate. All interviews were audio-recorded and transcribed. The interviews lasted from 30 to 45 minutes. In addition to audio recording, field notes were also taken for the greater accuracy of data collection. The majority of the interviews were held in the interviewees' offices. Interviews continued to the point where researchers felt that new information could no longer be obtained with the inclusion of new samples after 6 interviews. The characteristics of the interviewees are provided in Table 1.

It is worth noting that all interviews were read repeatedly to achieve immersion and obtain a sense of the whole. Data analysis proceeded in parallel with interviews.

As a second instrument in the collection of data, a researcher-developed questionnaire was used to complement the collected data, which was developed based on the findings of previous stages, including content analysis and qualitative interviews, a technique that provided the necessary information to respond to the study objectives. The sample size was estimated as 97 subjects, with a 95% confidence interval and precision of 0.2.

To ensure the adequacy of the sample size and considering the possible drop out of the patients, the final sample size was determined to be 123 subjects. The samples were selected using the cluster sampling technique. The test-retest method was used to assess the reliability of the questionnaire, which produced a correlation coefficient of 0.83. A total of 99 healthcare staff accepted our invitation

Table 1: Characteristics of the interviewees

Row	Code	Position	Work experience (year)	Major	Administrative responsibility
1	AV	Head of the healthcare network	20	PhD	Head of the healthcare network
2	AW	Head of Expansion Department of the healthcare network	20	M.Sc. in Water Resources	Family Physician Technical Expert
3	AX	Expert of Expansion Department of healthcare network of the University	21	M.Sc. in Healthcare Management	Head of Expansion Department of healthcare network of Kelaleh
4	AY	Deputy for Technical Affairs of Healthcare Network	31	M.Sc. in Healthcare Management	…
5	AZ	Director of Behvarz Training Institute	29	M.Sc. in Clinical Psychology	…
6	BA	Head of the family health unit	22	M.Sc. in Demography	….

to fill the questionnaire. The average time to fill the questionnaire was 10 minutes. It is worth noting that participants were managers of comprehensive healthcare centers and all are physicians. A written informed consent was obtained from all participants before entering the study and after a comprehensive introduction to the study protocol.

The questionnaire contained eight components of the weakness of the health insurance system (4 items), low comprehensiveness of executive guidelines (5 items), inappropriate recruitment and maintenance of human resources (5 items), weakness of cultural context (7 items), low efficacy of health information management system (5 items), poor educational effectiveness (3 items), inappropriate motivational mechanisms (5 items), and weakness of referral system (6 items). The face validity of the questionnaire was evaluated and confirmed by a panel of experts. Content validity was measured using the opinions of 20 academic and organizational experts, yielding a Content Validity Ratio (CVR) and Content Validity Index (CVI) of 0.8 to 1 and 0.7 to 1 for each of the items, respectively. To determine the reliability of the questionnaire, Cronbach's test-test and Cronbach's alpha were used and the questionnaire was piloted on a sample of 20 subjects with an interval of 2 weeks. Cronbach's alpha coefficients of eight components were 0.794, 0.861, 0.879, 0.791, 0.888, 0.807, 0.864, and 0.901, respectively. Data analysis was administered using MAXQDA and SPSS for qualitative and quantitative phases. It should be mentioned that the data comparison or triangulation was applied to analyze the data, both by the experts and the literature review.

Findings

A total of 348 codes were identified regarding the challenges of implementing rural FPP in Iran [Table 2]. The characteristics of eligible articles are described in Table 2.

The results of the content analysis of the literature review and experts' opinions about the challenges of family physician implementation are provided in Table 3. As per the findings, challenges of FPP implementation contain eight components of the weakness of health insurance system, low comprehensiveness of executive guidelines, inappropriate recruitment and maintenance of human resources, weakness of cultural context, low efficacy of health information management system, poor educational effectiveness, inappropriate motivational mechanisms, and weakness of referral system.

Investigation of challenges

Challenges of rural FPP separated by dimension are provided in Table 4. As shown in the table, poor educational effectiveness (n = 55; 60.49%) and low comprehensiveness of executive guidelines (n = 54; 59.26%) had the highest levels of challenges. On the other hand, the weakness of the referral system (n = 10; 4.94%) and inappropriate motivational mechanisms (n = 11; 6.17%) had the lowest level of challenge.

As shown in Table 4, the mean score of low comprehensiveness of executive guidelines was 3.08 (± 0.81) and most of the participants evaluated this component as moderate (54; 59.26%). Concerning the component of inappropriate recruitment and maintenance of human resources, most participants gave a moderate score (50; 54.32%) and their mean score was 2.90 (± 0.84). Regarding the weakness of cultural context, most of the participants gave a moderate score (65; 72.84%), followed by appropriate (21; 18.52%). The mean score of low efficacy of health information management system was 3.05 (± 0.90). Most of the participants gave an average score (n = 47; 50%), followed by appropriate (n = 27; 25%). Concerning the component of poor educational effectiveness, the mean score was 3.2 (± 0.89) and most of the participants evaluated this component as moderate (55; 60.49%). Regarding the inappropriate motivational mechanisms, most of the participants gave a moderate score (46; 56.79%), and their mean score was 3.43 (± 0.77). Last but not the least, the mean score of the weakness of the referral system was 3.59 (± 0.77) and most participants evaluated this component as moderate (45; 55.56%).

Discussion

In spite of many conducted studies on challenges of FPP in Iran, few studies have used both the literature review and qualitative method to evaluate the actual challenges of FPP. Mixing a broad literature review with experts interview, this study examined some latent challenges of rural FPP in Iran. As per the results, the components of "weakness of referral system" and "inappropriate recruitment and maintenance of human resources" had the highest and lowest weaknesses, respectively. Kavosi and Siavashi's study[33] have presented the most important problems of Iran referral system including self-referrals, incomplete referral forms, and unnecessary referrals.

Concerning challenges related to weaknesses of the health insurance system, 39 (48.15%) participants evaluated this variable as moderate. Mehrolhassani *et al*.[34] have presented the diversity of insurance organizations in Iran and different policies of these insurance organizations (healthcare and social security insurances) as anobstacles to the implementation of the FPP in Iran. As per Khedmati *et al*.'s[31] study, there is no efficient planning to implement the FP as the gatekeepers of healthcare system effectively. These issues deprived the efficient aim of FPP and need serious consideration specially in Iran health insurance system.

To reduce the workload of family physicians, it is necessary to clearly define their responsibilities and assign a reasonable range of tasks based on appraisal, time, and epidemiologic and demographic characteristics

Table 2: Eligible article for content analysis

Row	Authors	Publication Year	Method	Study Population	Data Collection Tool
1	Golalizadeh *et al*.[14]	2012	Qualitative	Health Experts working at the headquarter	Semi-structured interview
2	Mehrolhassani *et al*.[15]	2012	Qualitative	Experts and family physicians	Documents review Semi-structured interviews
3	Rashidian and Mohammadi.[10]	2016	Qualitative	Policymakers, experts, and family physician executives	Documentary analysis and interviews
4	Golalizadeh[14]	2013	Quantitative	Family physicians working at health centers	Interviews & Questionnaires
5	Bayati *et al*.[16]	2014	Qualitative	Family physicians working at health centers	Semi-structured interview
6	Motlag *et al*.[17]	2010	Quantitative	Family physicians	Interview & observation
7	Mohammadian *et al*.[18]	2017	Quantitative	Managers and phsycians	Semi-structured interview
8	Nejatzadegan[19]	2016	Qualitative	Health Managers and Family Physicians	Semi-structured interview
9	Nasrollahpour Shirvani[13]	2014	Qualitative	Health Managers and Specialists	Document analysis and interviews
10	Jaberi *et al*.[20]	2013	Qualitative	Rural Family Physicians	Interviews, observations and questionnaires
11	Shiyani *et al*.[21]	2009	Quantitative	Health Managers and Specialists	Questionnaire & observation
12	Nasrollahpour *et al*.[11]	2010	Qualitative	Physicians and health professionals	Interviews, observations, and documents review
13	Hooshmand *et al*.[22]	2020	Quantitative-Qualitative	Managers and Family Physicians	Interviews & questionnaires
14	Behzadifar *et al*.[23]	2018	Qualitative	Managers and Family Physicians	Interview and analysis of documents
15	Nasiripour[24]	2014	Quantitative	Family Physicians	Interviews & Questionnaires
16	Yazdi Feyzabadi *et al*.[25]	2014	Quantitative	Rural Family Physicians	Questionnaire
17	Lankarani *et al*.[26]	2010	Qualitative	Family Physicians	Interview, view and checklist review
18	Bolbanabad *et al*.[27]	2019	Qualitative	Rural Family Physicians	Observation, semi-structured interview, and document analysis
19	Rouhani *et al*.[28]	2015	Qualitative	Rural Family Physicians	semi-structured interview
20	Atefi *et al*.[29]	2014	Quantitative	Rural Family Physicians	Questionnaire
21	Mehtarpour *et al*.[30]	2018	Qualitative	Family Physicians	semi-structured interview and document analysis
22	Khedmati *et al*.[31]	2019	Systematic review	Family Physicians	Review of studies

of the covered population.[35] Concerning the component of "low comprehensiveness of executive guidelines", 48 participants (59.26%) evaluated it as moderate. Golalizadeh *et al*.[14] mentioned this component as insufficient knowledge of the provincial executive and political authorities of the FPP and referral system, which was also considered in this study. Following a qualitative approach, Mehrolhassani *et al*.[15] performed a study to identify challenges of the FPP by asking the opinions of experts of the medical university and medical services insurance organization. They mentioned weak executive guidelines as an important challenge. Golalizadeh *et al*.[14] mentioned the lack of legal requirements for providing feedback from higher levels of service provision as the main reason for the low comprehensiveness of executive guidelines, which is in line with the present study.

Most participants evaluated the status of recruitment and maintenance of human resources as moderate. Misalignment between announced schedules for specialists' consultation and the reality and mistrust of some specialist physicians to provide services at the primary care are factors reported by Golalizadeh *et al*.,[14] which are in line with the present study. In a study intended to identify effective factors and barriers of family physician implementation, Bayati *et al*.[16] mentioned poor housing infrastructure and amenities as the main challenges related to human resources.

Table 3: The main challenges of family physicians program implementation in Iran

Component	Sub-category	
	Stage 1: Literature Review	**Stage 2: Experts' Opinion**
weakness of health insurance system	Poor cooperation of health insurance funds in the family physician plan,[28,29] low per capita rate,[18,22,29] disproportionateness between benefit package and the available time and population covered by physicians,[18,30] Lack of insurance coverage for a wide range of drugs and treatments[22]	Lack of insurance coverage for a wide range of drugs and treatments, disproportionateness between benefit package and the available time and population covered by physicians
Low comprehensiveness of executive guidelines	Lack of consensus among different stakeholders,[10,27] inappropriate and unfair allocation of resources and facilities,[28,30], Existence of cumbersome rules,[27] and impact of government changes as well as policies on allocation of financial resources[10,18,21,27,30]	Not engaging healthcare providers in policymaking, impact of government changes as well as policies on allocation of financial resources
Inappropriate recruitment and maintenance of human resources	Lack of appropriate housing and facilities for physicians,[16,18,20,22,30,31] insufficiency of family physicians and lack of access to their services,[18,32] interference with health programs and high workload of physicians,[11,15,16,18,20,29,30] and the reluctance of physicians for full time living in rural health complexes[18,20,32]	Non-acceptance of some programs due to privacy concerns (for both provider and the patient), Lack of appropriate housing and facilities for physicians, interference with health programs and high workload of physicians and the reluctance of physicians for full time living in rural health complexes
weakness of cultural context	Lack of awareness and adequate training about family physicians' procedures,[11,13,14,16,18,20-22,28,30,32] increased expectations, and insufficiency of infrastructure and their disproportionateness with goals,[30] lack of participatory culture and teamwork, particularly between medical staff and other members,[16,21,23,30] and low trust in family physicians,[14,16,18,21,23,25,30] Limited private sector participation[22]	Lack of awareness and adequate training about family physicians' procedures, Inappropriate introduction of family physician program and physical examination inadequacy, lack of participatory culture and teamwork, particularly between medical staff and other members
Low efficacy of health information management system	The poor monitoring and evaluation system,[16,18,21,22] inappropriate use of collected information in local and provincial decision making[15,23]	Lack of appropriate and reliable infrastructure for data collection, lack of appropriate hardware for data collection, inappropriateness between data entry time and number of examined patients
Poor educational effectiveness	lack of community-based perspective in the education system,[15,23] The mismatch between the educational programs of general practitioners and medical teams with the real needs of the family physician program[26]	Lack of continuity in training family physicians , The mismatch between the educational programs of general practitioners and medical teams with the real needs of the family physician program
Inappropriate motivational mechanisms	Disproportionateness between physicians' authorities and responsibilities,[18,22] job insecurity of physicians,[18,22,25] late reimbursement of family physicians,[22,23] disproportionateness between salaries of family physicians and their workload,[11,16-18,20,22,23,29,30] the huge gap between the income of specialists and that of general practitioners[26]	The poor evaluation system of physicians and not applying negative points in salary calculations, late reimbursement of family physicians, disproportionateness between salaries of family physicians and their workload
weakness of referral system	Not emphasizing on the role of Behvars and health houses,[13,16,30] poor institutionalization and informing,[11,14,19,27] poor cooperation of specialists who work as a part of the FPP in providing feedback,[14,15,16-18,25] insufficient number of health care centers and clinics at the second level of service provision[14]	Not emphasizing on the role of Behvars and health houses, poor cooperation of specialists who work as a part of the FPP in providing feedback, The mismatch between service provision capacity and scheduling examinations for patients, lack of proper electronic communication between the public health and treatment sectors, lack of communication between the specialist working at private sector and primary healthcare in terms of providing feedback and patients follow-up, insufficient number of health care centers and clinics at the second level of service provision

Mohammadian *et al*.[18] investigated challenges related to the human resources in terms of the insufficient number of permanent physicians, low willingness of physicians to participate, low attractiveness of the plan to encourage physicians for longer periods, and low job security, which most of them are also emphasized in the present study. It is worth noting that Mohammadian *et al*.[18] reported this component as moderate to slightly higher, which is in

Table 4: Challenges of rural FPP separated by dimension

barriers	challenges	Inappropriate	Moderate	Appropriate	Total
Health insurance system	Lack of awareness and adequate training about family physicians' procedures Increased expectations insufficiency of infrastructure and their disproportionateness with goals lack of participatory culture and teamwork particularly between medical staff and other members low trust in family physicians	19 (23.46%)	41 (50.62%)	21 (25.93%)	99 (100%)
Low comprehensiveness of executive guidelines	Lack of consensus among different stakeholders Inappropriate and unfair allocation of resources and facilities Not engaging healthcare providers in policymaking Existence of cumbersome rules Impact of government changes as well as policies on allocation of financial resources	20 (17.28%)	54 (59.26%)	25 (23.46%)	99 (100%)
Inappropriate recruitment and maintenance of human resources	Non-acceptance of some programs due to privacy concerns (for both provider and the patient) Insufficiency of family physicians and lack of 24/7 access to their services Interference with health programs and high workload of physicians The reluctance of physicians for full time living in rural health complexes Lack of appropriate housing and facilities for physicians	30 (29.63%)	50 (16.05%)	19 (16.05%)	99 (100%)
Weakness of cultural context	Lack of awareness and adequate training about family physicians' procedures Increased expectations Insufficiency of infrastructure and their disproportionateness with goals Lack of participatory culture and teamwork Particularly between medical staff and other members Low trust in family physicians The poor monitoring and evaluation system Inappropriate use of collected information in local and provincial decision making Inappropriate introduction of family physician program Physical examination inadequacy	13 (8.64%)	65 (72.84)	21 (18.52)	99 (100%)
Low efficacy of health information management system	The poor monitoring and evaluation system Inappropriate use of collected information in local and provincial decision making Lack of appropriate and reliable infrastructure for data collection Lack of appropriate hardware for data collection Inappropriateness between data entry time and number of examined patients	25 (23.46%)	47 (50.62)	27 (25.93)	99 (100%)
Poor educational effectiveness	Lack of continuity in training family physicians Lack of community-based perspective in the education system The mismatch between the educational programs of GPs with the real needs of the family physician program	16 (12.35%)	55 (60.49%)	28 (27.16%)	99 (100%)
Inappropriate motivational mechanisms	Disproportionateness between physicians' authorities and responsibilities Job insecurity of physicians Late reimbursement of family physicians Disproportionateness between salaries of family physicians and their workload The poor evaluation system of physicians and not applying negative points in salary calculations	11 (6.17%)	52 (56.79%)	36 (37.04)	99 (100%)

Contd...

Table 4: Contd...

barriers	challenges	Inappropriate	Moderate	Appropriate	Total
Weakness of the referral system	Not emphasizing on the role of Behvars and health houses Poor institutionalization and informing Poor cooperation of specialists who work as a part of the FPP in providing feedback The mismatch between service provision capacity and scheduling examinations for patients Lack of proper electronic communication between the public health and treatment sectors Lack of communication between the specialist working at private sector and primary healthcare in terms of providing feedback and patients follow-up Insufficient number of health care centers and clinics at the second level of service provision	10 (4.94%)	51 (55.56%)	38 (39.51%)	99 (100%)

line with the findings of the present study. Concerning the weakness of cultural context, 59 participants (72.48%) rated this component as moderate. This component is also reported by Golzadeh *et al*.[14] Furthermore, Mehrolhassani *et al*.[15] also mentioned a poor cultural background as an important challenge that has resulted in problems in increasing awareness and promoting teamwork, which is consistent with the findings of the present study. Shiani *et al*. also mentioned cultural problems.[10] Following a quantitative framework, Javanbakht *et al*.[36] evaluated the weakness of cultural context in terms of awareness about the FPP and reported that almost half of the people reported moderate awareness, which is consistent with our findings. Arab *et al*.,[37] in a qualitative study, noted patients' unawareness about the instruction of the FPP and lack of trust in family physicians' abilities, as the main cultural problems, which is consistent with the present study.

Gulalizadeh *et al*.[14] emphasized insufficient awareness of managers of healthcare networks, both at provincial and county levels, about family physician and referral system program and low awareness of people about the instructions of family physician and rural health insurance as cultural problems. In addition, 41 participants (50.62%) evaluated the challenge of low efficiency of health information management systems as moderate. Golalizadeh *et al*.[14] reported insufficiency and ineffectiveness of monitoring systems as the main component that indicates low efficacy of health information management system. This issue is also emphasized by Mehrolhassani *et al*.,[15] who investigated the existence of indicators such as appropriate infrastructure, reliable monitoring systems, and performance evaluation.

In the study by Nejatzadegan *et al*., the time-consuming nature of data entry and fake documentation by physicians are mentioned as the main components of low efficiency of the health information management system, which as per the results had a moderate status. In this study, 49 participants (60.49%) evaluated the effectiveness of training as moderate. Poor knowledge of providers is reported by Golalizadeh *et al*.[19] Mehrolhassani *et al*.[15] also pointed to poor educational effectiveness in different parts of the healthcare system, including the mismatch between training and real needs of those working as a part of the FPP. Bayati *et al*.[16] pointed to weakness in the education sector and low educational effectiveness regarding familiarization and justification of the benefits of FPP implementation, which has also been identified in the present study. The effectiveness of family physicians, as an important factor in the study by Ebadi Fard *et al*.,[9] was evaluated as higher than average by most of the participants. Also, 46 participants (56.79%) evaluated the status of motivation mechanisms as moderate. Low tariff for specialists working at the secondary level is one of the main disincentives emphasized by Golalizadeh *et al*.[14] Inappropriate motivational mechanisms were among the identified challenges by Mehrolhassani *et al*.,[15] which is in line with the findings of the present study. Arab *et al*.[37] pointed to inappropriate motivational mechanisms as one of the challenges of FPP, which contributes to physicians' resistance against patients' demands and pressure of other stakeholders on family physicians.

Golalizadeh *et al*.[14] pointed to poor motivational mechanisms such as low tariffs for specialists working at the secondary level of service provision, which disincentives them as one of the main challenges of FPP implementation. Bayati *et al*.[16] also emphasized increasing amenities available to family physicians, which is in line with the present study. Nejatzadegan *et al*.[19] evaluated the status of physical work environment, transportation facilities, and childcare facilities and reported a moderate status for these factors. In the present study, this dimension was evaluated as moderate, which indicates the similarity between these two studies. Forty five participants (55.56%) evaluated the status of the referral system as moderate. The weakness of the referral system in issues such as providing feedback and inaccessibility of services to nomads is reported by Golalizadeh *et al*.,[14] which is consistent with the findings of the present study. Challenges arising from the governing structure of the health system, such as being multisectoral

and multiplication of actors of the health system, are reported by Shiani *et al*. as challenges related to the poor referral system.[10] Reverse referral and not providing feedback are reported as weaknesses of the referral system by Arab *et al*.,[37] which is in line with the findings of the present study. The limited number of healthcare centers that provide services at the secondary level and problems related to rereferrals or periodic examination at the specialized levels and providing services to those under the coverage of FPP by hospitals located in adjacent cities are reported as weaknesses of the referral system by the Golalizadeh *et al*.,[14] which are in line with the present study. The weakness of the referral system is also emphasized by Bayati *et al*.,[16] who also noted challenges such as weak collaboration of specialists working at the secondary level, providing appropriate feedback to family physicians, and availability of healthcare centers, which are consistent with the present study. Ebadi Fard *et al*.[9] reported a moderate level of weakness for the referral system, which is similar to the present study that the findings indicated weaknesses in establishing relations with the private sector and the primary care level, follow-up and collaboration with specialized physicians who work as a part of the FPP, and providing appropriate feedback to family physicians.[9] In Shiani's study, the referral system was evaluated as moderate or higher concerning components of availability and timely access to a physician, safety and welfare when receiving services, waiting time for receiving family physician services, the usefulness of family physician's actions, and performance of paramedical units engaged in the FPP.[10]

The components mentioned in the qualitative section of the present study and those identified in the quantitative section were evaluated to have a moderate status; hence, the results of these two studies can be considered consistent. The study conducted by Motlag *et al*.,[17] which followed a quantitative approach, evaluated the status of the referral system as weak with variations based on the investigated variables.

Limitations

It is necessary to mention some limitations and biases of our study. The main limitation of the qualitative stage was the lack of access to the full text of some studies. Concerning the quantitative stage, the main limitations were using a self-administered questionnaire and not considering the socioeconomic status of participants.

Conclusion

Since the launch of the FPP, this program has led to better health services, but also has problems in implementation. But this program, as mentioned in the findings section, faces four major challenges: manpower, insurance, legislation, and culture. It seems that a comprehensive policy and program is needed in the field of human resource management، health information management systems and solving the problems of comprehensive rural health insurance should be developed with the cooperation of all experts so that it can solve these problems.

Ethical consideration

The research purpose and methodology were subjected to scrutiny by the Internal Research Ethics Committee of 'OOO' University of Medical Sciences. In addition, the interviewees were informed that they can withdraw from the study at any time.

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Conflicts of interest

There are no conflicts of interest.

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