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Referral System Challenges of the Family Physician Program in Iran: A Systematic Review

Abtin Heidarzadeh[1], Bita Hedayati[2], Mehdi Alvandi[3], Mostafa Rezaei[4], Babak Farrokhi[5], Ideh Dadgaran[6], Mark K. Huntington[7], Shadrokh Sirous[8], Roksana Mirkazemi[2]*

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Abstract

Background: Iran has implemented the Family Physician Program (FPP) in 2005 in 4 provinces. This program was supposed to be expanded across the country; however, it faced various challenges. Considering the impact of the referral system on the quality of the FPP implementation, different studies were conducted to evaluate the performance of this system. Therefore, this systematic review of the literature was conducted to investigate the challenges of the referral system of the FPP in Iran.

Methods: All published original articles, reviews, or case studies published in English or Persian related to the challenges in the referral system FPP in Iran from 2011 to September 2022 were included in this study. International credible scholarly databases were searched. The search strategy was defined based on keywords and the search syntax.

Results: Out of 3910 articles identified by the search strategy, considering the inclusion and exclusion criteria and relevance of the study, and accreditation of the studies, 20 studies were included. The referral system suffers from different challenges in the areas associated with policy and planning, management, referral process, and health service recipients.

Conclusion: The inefficient gatekeeping role of family physicians was one of the most important challenges of the referral system. The referral system should be improved by having evidence-based guidelines and policy documents, unified stewardship, integrated insurance schemes, and effective communication between different levels of care.

Keywords: Physicians, Family, Referral, Challenges

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Introduction

With the Alma-Ata declaration, primary health care (PHC) was established to achieve "Health for all," as one of the goals of the World Health Organization (WHO) in the 1970s. Currently, PHC is still a means to achieve justice and equity in health (1).

In countries such as Canada, the Republic of Korea, and Great Britain, which have been successful in achieving health equity, primary health care is based on family med-

Corresponding author: *Dr Roksana Mirkazemi, r.mirkazemi@fna-research.com*

1. Department of Community and Family Medicine, School of Medicine, Medical Education Research Center, Guilan University of Medical Science and Health Services, Rasht, Iran
2. Research Department, Farzanegan Nik Andish Institute for the Development of Knowledge and Technology, Tehran, Iran
3. Department of Public Administration, Faculty of Management, University of Tehran, Tehran, Iran
4. Deputy of Health, Isfahan University of Medical Sciences, Isfahan, Iran
5. Health Network Administration Center, Undersecretary for Health Affairs, Ministry of Health and Medical Education, Tehran, Iran
6. Medical Education Research Center, Guilan University of Medical Sciences, Rasht, Iran
7. University of South Dakota Sanford School of Medicine. Sioux Falls Family Medicine Residency, Pierre Rural Family Medicine Residency Program, Vermillion, United States
8. National Professional Officer and Unit Head, Universal Health Coverage/Health System, WHO Representative Office, Tehran, Iran

↑What is "already known" in this topic:
Different studies reported that the family physician program in Iran suffers from various challenges in the referral system that hindered its success. This program will be extended across the country, and therefore a comprehensive view of these challenges and addressing them before the expansion of the program seems necessary.

→What this article adds:
This systematic review provides a comprehensive view of the existing challenges in the referral system of the family physician program in Iran and could be used for the improvement of this program and provide a lesson learned for policymakers in similar countries that are going to initiate such programs.

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icine and efficient referral systems (2).

Family physicians are key components for achieving health equity, health promotion, increased access, reduced costs, and improved health system responsiveness (3, 4). Iran initiated its Family Physician Program (FPP) in 2005 (5).

During the first 2 decades, PHC had many achievements in Iran (6); however, it faces various obstacles in addressing health needs and working toward health equity (7, 8). Challenges include data management, budgeting, management, recruiting and maintaining sufficient and competent human resources (6), emerging health issues such as chronic diseases (7), and general health system challenges like high and catastrophic out-of-pocket payment, induced demand, conflict of interest, inadequate oversight, and overreliance on costly technology that overwhelms the already frustrated system (9).

A strong referral system is a pillar of the FPP, which connects the health system on all levels and ensures appropriate and cost-effective health care services for all (5, 10). However, studies show that one of the most important challenges of the FPP in Iran is the weakness of its referral system. Lack of communication and proper interaction between different levels of the referral system, lack of feedback to the referring physician, lack of patient follow-up, self-referrals, and unnecessary referrals are examples of the weaknesses reported in the studies (11-17).

A systematic review comparing key elements of different referral systems with those in Iran indicated that "using clear and agreed upon referral guidelines, structured referral templates, incorporation of referral process into electronic patient records, centrally referral triage, and referral tracking system" are the main characteristics of a strong referral system that are lacking in Iran (18).

Multiple studies have included evaluations of the referral system and mentioned different challenges associated with this program. There is a plan to expand this program across the country, thus, the improvement of the referral system is crucial for this expansion. To improve the current referral system, the identified needs should be addressed via policymaking and action. Based on the authors' knowledge, to date, there has been no study to comprehensively identify the challenges associated with the referral system of the FPP program. Therefore, the present study aimed to systematically review published articles evaluating the FPP to identify the challenges particularly related to the referral system.

Methods

Literature Review

A qualitative systematic review method was used to address the main question of the study was related to the existing challenges associated with the referral system of the FPP in Iran.

Eligibility Criteria

All published articles related to the implementation of the FPP were the subject of this study. The eligibility criteria included original articles, reviews, or case studies that addressed the challenges associated with the FPP in Iran published in English or Persian between January 2011 and September 2022.

The exclusion criteria were gray literature, unpublished reports, or studies published in languages other than English or Persian.

Information Sources

In September 2022, internationally credible scholarly databases, including Google Scholar and PubMed, and Persian databases such as Iran Medex, Magiran, Irandoc, and Scientific Information for Database were searched. Also, the references of selected articles were hand-searched to find relevant studies.

Search Strategy

The search strategy was defined based on keywords and the search syntax, which was first defined for the PubMed database and then revised according to each database's specific framework of search method.

The following keywords were used in both English and Persian:

"Family physician", "Family Physician Care Program", "general practice", "General Medicine", "General Practitioner", "General physician", challenges", "achievements", "role", "secondary care level", "tertiary care level", "referral system", "primary care medicine", "primary care", "Iran". Searches employed terms individually and in combinations using Boolean operators AND and OR.

Selection Process

Based on the title and abstract, two reviewers independently categorized articles as "excluded," "included," or "probable." They then reviewed the full text of articles categorized as "probable" and moved them into one of the other categories. Articles that were categorized similarly by both reviewers were either included or excluded.

Disputes were decided based on a review by a third expert.

Data Collection and Extraction Process

The included studies were independently reviewed for quality and validity by two reviewers, and studies of low quality and validity were excluded. As the type of systematic review was a qualitative systematic review, data extraction was based on the Sample, Phenomenon of Interest, Design, Evaluation, and Research type (SPIDER) technique, which describes the situation. Finally, all selected articles were carefully reviewed, extracting the data including title, authors, year of publication, name of the journal, study design, participants, instruments, settings, the explanation about the phenomena (eg, strengths and weaknesses), and the addressed topic (eg, planning, process, etc).

Data Items

The challenge to the referral system in the FPP in Iran was the data item in this study.

Study Risk of Bias Assessment

As noted above, two independent reviewers conducted

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the eligibility, quality assessment, and data extraction stages of the systematic review. When there was a dispute, a third reviewer was consulted. A methodologist checked the validity of studies based on the international guidelines for reporting research—such as the Consolidated Criteria for Reporting Qualitative Studies (COREQ), Case Reports (CARE) guideline, Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), and Strengthening The Reporting Of Observational Studies In Epidemiology—(STROBE), and excluded articles with low validity.

Results

Study Selection

Out of 3910 articles identified by the search strategy and after examining their title and abstract, 112 studies were retrieved. After reviewing the full texts of the articles, 56 studies were excluded due to poor methodology design or lack of relevant data. Another 37 studies were excluded during data extraction because they did not meet the inclusion criteria. Ultimately, 20 studies were included (Figure 1).

Study Characteristics

Table 1 shows the general characteristics of all 19 final studies and their main findings regarding the challenges of the referral system.

Of the 20 studies, nine used qualitative methods. Data were collected through interviews and focus group discussions. A total of 163 experts, including family physicians, managers, health care providers, faculty members, and policymakers, participated in these studies.

Also, nine studies were qualitative, seven cross-sectional, three systematic reviews, and one was a quasi-experimental study. The included 4204 participants and data were collected via questionnaires. Out of these 4204 participants, 2967 were patients, and 1237 were service providers and decision-makers. Moreover, nine studies investigated the urban FPP, 4 investigated the rural FPP, and four investigated both.

Table 2 shows the main findings of the included studies regarding the challenges of the referral system in Iran.

Policy and Planning

The lack of an accurate and evidence-based guideline and policy document for the FPP in Iran was among the major challenges. The lack of a scientific monitoring and evaluation plan and an external evaluation system at the initial stage of the program planning was another major challenge (14, 19, 20).

The hasty implementation of the plan precluded providing the necessary infrastructure, including culture acceptance, or preparing the decision-makers to adopt the changes necessary to incorporate the family physicians program into the health system (14, 19).

Lacking coverage by existing insurance schemes for the family physician referrals system was another challenge. In the urban FPP, only the health and social security insurance schemes were included; others, such as insurance schemes for bank employees, armed forces, et cetera were not included (21). Failure to integrate different insurance schemes within the FPP led to unnecessary referrals to the secondary and tertiary levels (21).

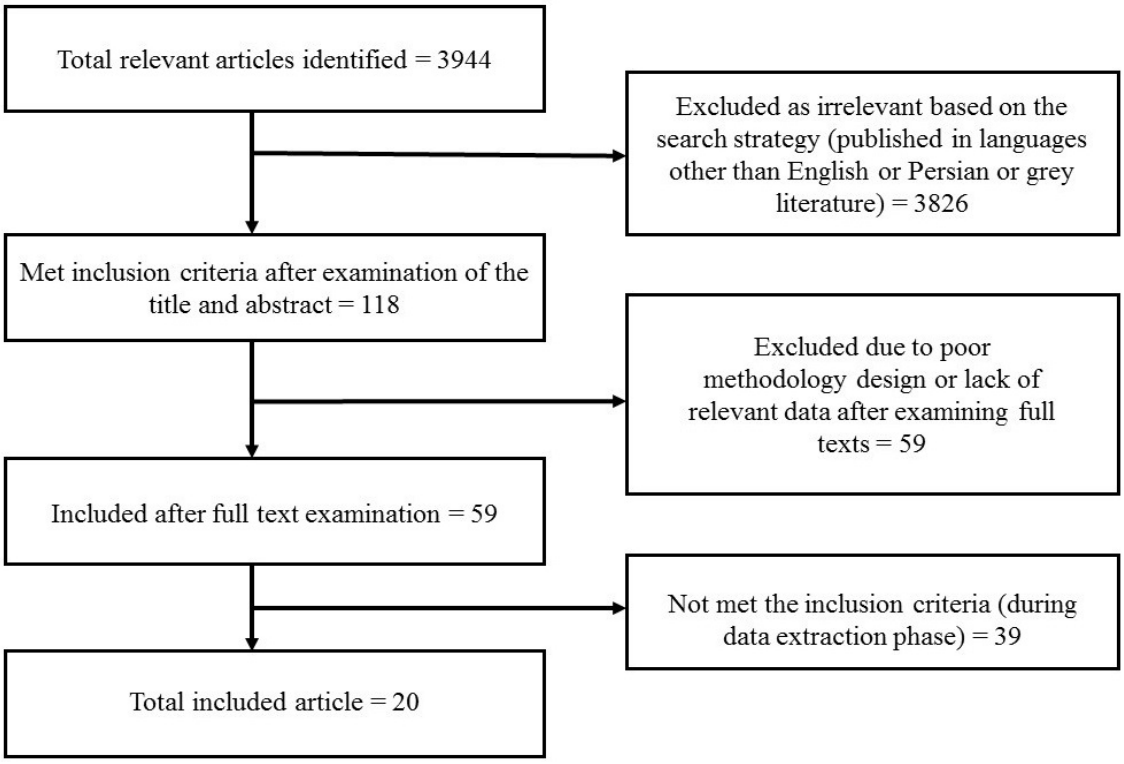

Figure 1. PRISMA flow diagram of the selection of publications

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Table 1. The characteristics of the included studies

Author	Publication Year	Study Design	Data Collection	Participants	Language	Sample Size	Urban/Rural Family Physician
Damari et al (14)	2017	Qualitative study	Review of literature and documents, interview	Experts and stakeholders	Persian	-	Urban (Mazandaran and Fars provinces)
Mehtar Pour and Tajvar (19)	2018	Qualitative study	Review of literature and documents, interview	Experts	Persian	6	Urban and rural
Safizadehe Chamokhtari et al (20)	2018	Qualitative study	Semi-structured and in-depth interviews	Family physicians, executive managers, insurance service providers, and receivers	Persian	30	Urban
Tavakoli et al (21)	2017	Cross-sectional study	Questionnaire	Experts	Persian	400	Urban (Mazandaran, Fars and Golestan provinces)
Khedmati et al (16)	2019	Systematic review	-	-	English	-	Urban and rural
Nasrollahpour et al (22)	2013	Cross-sectional study	Questionnaire	Patients	Persian	963	Rural(Mazandaran, Gilan and Golestan provinces)
Kavosi and Siavashi (23)	2018	Cross-sectional study	Data collecting form	Patients and family physicians	English	75 family physician 1289 Patients	Urban (Fars province)
Eskandari et al (24)	2013	Qualitative study	Semi-structured individual interviews and small focus group discussions	Rural health care providers and rural patients)	English	26((21 rural health care providers and five rural patients)	Rural (Fars province)
Azami-Aghdash et al (25)	2016	Systematic review			English		Rural
Kazemian and telori (26)	2017	Cross-sectional study			Persian		Rural (Golestan province)
Gol Alizadeh et al (11)	2012	Qualitative study	Semi-structured interviews	Experts working in the field of health networks	Persian	22	Urban (Mazandaran province)
Nasiri pour et al (27)	2014	Cross-sectional study	Questionnaire	Family physician	Persian	96	Rural
Abedi et al (28)	2018	Qualitative study	Semi-structured and in-depth interviews	Faculty members, family physicians, senior managers, and health experts	Persian	9	Urban
Doshmangir et al (10)	2013	Qualitative study	Researcher-made worksheet for document analysis and in-depth semi-structured interview	Informants	English		Urban

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Table 1. Continued

Author	Publication Year	Study Design	Data Collection	Participants	Language	Sample Size	Urban/Rural Family Physician
Mehrolhassani et al (29)	2021	Qualitative study	Interviews	Policymaker and manager at the national and provincial levels	English	44	Urban/rural
Keshavarzi et al (30)	2017	Cross-sectional study	Questionnaire	Managers and administers	Persian	530	Urban (Mazandaran and Fars provinces)
Khayyati et al (31)	2011	Quasi-experimental study	Questionnaire	Units under FPP from the health center and health houses	English	12 units from 4 health centers and 2 health houses	Urban/rural (Sanandaj)
Jahromi et al (32)	2017	Cross-sectional study	Primary Care Evaluation Tool questionnaires	Family physicians and patients	English	141 family physicians/ 710 patients	Urban (Mazandaran and Fars provinces)
Rouhani and Bagher et al (33)	2015	Qualitative study	Semi-structured interviews	Family physician	Persian	26	Rural (Mazandaran province)
Ahmadi Far et al (34)	2022	library review			Persian		

Table 2. The main findings of the included studies regarding the challenges of the referral system in Iran

Author (year)	Challenges of the Referral System
Damari et al (2017)	The urban FPP was examined for challenges in these domains: authority, service delivery, and resources. Challenges in the authority domain include lack of a unified authority for the referral system, role conflict, ambiguity between the Ministry of Health and Medical Education and the Ministry of Cooperatives, labor, and social welfare, weak cooperation between and within the sectors, hasty implementation of the FPP without preparing the necessary infrastructure, changing the management of the family physician program, not involving all the stakeholders in the program, and lack of proper action for culture building in the society. The challenges in the service delivery domain include lack of cooperation between family physicians and specialists, failure to provide feedback by specialists, the significant number of incomplete and nonstandard referral forms filled out by the family physicians, completion of referral forms by individuals other than family physicians, and lack of public trust in the referral process. The issues in the area of resources include a lack of electronic record infrastructure, a shortage of physicians, and a lack of training programs (14).
Mehtar Pour and Tajvar (2018)	The challenges categorized by different actors in the referral system include the public as recipients of health services (lack of sufficient knowledge of referral system and resistance to rational utilization of health services), local institutions (lack of necessary familiarity with the existing rules, conditions, and facilities to benefit from the program and failure to achieve the goals intended for the Board of Trustees), family physicians as service providers (high quit rate due to dissatisfaction with welfare, economic, organizational, educational, social and cultural factors), specialists (lack of proper cooperation due to conflict of interest), Universities of Medical Sciences (weak leadership), and Health Insurance Organization (weak supervision, lack of proper allocation of resources, and using resources for other purposes) (19).

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Table 2. Continued

Author (year)	Challenges of the Referral System
Safizadehe Chamokhtari et al (2018)	Among the weakness of the referral system are not properly informing the public, the issues of the physician, weak monitoring and assessment, management issues, payment systems, electronic health records, insurance organizations, and insufficient facilities and equipment in health and treatment centers (20).
Tavakoli et al (2017)	The policy of the health system and the structure of the insurance affects the referral system of the urban FPP (impact factor of 0.804 and 0.860, respectively). For the "health system policy" factor, the most important variable was "monitoring the health services at the primary, secondary, and tertiary levels". Other variables include the commitment of the health system to reduce out-of-pocket payments of patients and insurance aggregation (21).
Khedmati et al (2019)	There are considerable concerns for the referral system between levels I and II in both urban and rural programs. There was no efficient planning to effectively implement the FP as the gatekeeper of the health care system. These issues weakened the efficiency of the FPP and need serious consideration (16).
Nasrollahpour et al (2013)	For 299 patients (31%) the need for referral was decided by the family physicians, and for 161 referrals (17%) a Level 2 specialist was selected. For 16.1 % of the referred patients, the level 2 specialists gave feedback to the family physicians. Among patients referred to level 2, only 149 (15. 5%) returned to their referring physician. A total of 697 patients (85.3%), who did not return to the first level, mentioned lack of knowledge as the main cause (22).
Kavosi and Siavashi (2018)	One of the main issues of the referral system is self-referral, incomplete referral forms, and unessential referrals. The lowest rate of self-referral was related to patients aged 70 and older, and the highest rate of self-referral was related to young people under 20 years old (P=0.03). Additionally, highly educated patients have a higher number of self-referrals (P=0.001) (23).
Eskandari et al (2013)	The referral system suffers from a lack of proper leadership, a lack of connection between different levels, self-referral and bypassing of the referral system, and insufficient knowledge about the referral system (24).
Azami-Aghdash et al (2016)	Frequent and unnecessary recourses, self-referral, lack of follow-up in case of referrals, lack of feedback on referral cases, and inability to separate referral cases from self-referrals (25).
Kazemian and telori (2017)	A total of 65% of referrals to specialists in the hospitals of city of Gorgan was unnecessary (26).
Gol Alizadeh et al (2012)	The challenges of the secondary level are as follows: lack of feedback to the first level, poor cooperation of specialists, unacceptable behavior towards the referred patients, failure to supervise and prevent horizontal referrals by specialists, the absence of some specialists against their schedule, insufficient working hours of the specialists, failure to record the referral and diagnosis code in the laboratory and radiology application forms, and some specialists' lack of trust in level one services providers. The challenges of the primary level: Failure to gather the complete health records of the covered population, failure to complete the insurance book reference box by the family physicians, insufficient efforts to inform the society and build culture, the inability of the family physician team to make the timely and necessary referral to the related specialist, not recording the measures taken at the level one. The challenges of management: insufficient number of specialists, lack of level 2 health centers, low service tariffs for secondary-level referral specialists, lack of knowledge of the city and provincial executive political officials about the FPP and its referral system, lack of legal obligation to provide feedback from level 2 to 1, the lengthy path of referral from level 1 to other levels, the inefficient performance of secondary-level specialists in the referral payment and incentive system (11).
Nasiri pour et al (2014)	The cooperation of secondary-level specialists is undesirable. The general status of referral to level 2 is undesirable (27).
Abedi et al (2018)	The challenges of the referral system include hasty implementation of the program, lack of culture building, problems in reverse referral, and lack of cooperation from specialists (28).
Doshmangir et al (2013)	Lack of clear connection between different levels of health service delivery system (10).
Mehrolhassani et al (2021)	As indicated by the family physicians, the coordination between the primary-level family physician and the secondary-level specialist was limited to a referral sheet, (lack of effective communication between the various levels of the referral system). Among the factors which play an influential role in the proper implementation of the referral system at the city and province level is the coordination between the different vice-chancellors of medical universities and also the coordination of the family physician team with other departments (29).
Keshavarzi et al (2017)	Low quantity and quality of referral feedback were evaluated as the most important weak point of the urban family physician program (30).
Khayyati et al (2011)	The number of referrals to the hospital was 2676 cases, of which 36% received feedback, and 3.17% of them were followed up by a family physician (31).

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Table 2. Continued

Author (year)	Challenges of the Referral System
Jahromi et al (2017)	Almost all family physicians had a computer. The FPs did not maintain their patients' medical records, routinely. Approximately 88% of FPs wrote referral letters for all referred patients, but only 57% of patients received medical feedback from specialists (32).
Rouhani and Bagher et al (2015)	The challenges related to the service providers in the referral system are lack of feedback and reverse referral. The challenges related to the patients in the referral system challenges are insufficient knowledge of FPP and lack of confidence in the ability of family physicians. The challenges related to Family physicians are resistance to patients' requests and the influences of other stakeholders (33).
Ahmadifar et al (2022)	The challenges were related to communication components in the referral system that included measuring satisfaction, lack of awareness (training, informing, participation), empowering human resources, and improving health indicators (34).

Table 3. challenges of the FPP Referral System in Iran

Theme	Subtheme
Policy and planning	Lack of an accurate and evidence-based guideline and policy document for the FPP
	lack of a scientific monitoring and evaluation plan and an external evaluation system at the initial stage of the program planning
	Hasty implementation of the plan that precluded providing the necessary infrastructure
	Lack of coverage by existing insurance schemes for the family physician referrals system
Management	Lack of unified stewardship in the health system for the FPP
	lack of transparency and clarity about authorities responsible for implementing the FPP and the referral system
	Weak collaboration between and within different engaged sectors
	Inefficient evaluation and monitoring provision
	lack of participation or involvement of all stakeholders in decision-making or the implementation of the program
	The lack of integration of insurance schemes
Process	Weak role of the family physician as the gatekeeper
	Unnecessary referrals to the secondary level
	Poor cooperation of the specialists at secondary care level
	Unclear process of the family physician referral from the primary to the secondary and tertiary levels
	The referral process is time-consuming and lacks effective communication between different levels of care
	lacking effective communication between different levels of care
	Inadequate patient information flow in both directions
	Lack of accurate information registration
	The existing conflict of interest between the care level
	Poor follow-up of the referred cases
Health service recipients	Unfamiliarity with the concepts and procedures of the FPP
	Lack of trust in the knowledge and capabilities of the family physician
	Insistence of patients or their companions to be referred to specialists
	Lack of cooperation from patients in providing feedback

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Management

Four studies addressed the management of the referral system. The lack of unified stewardship in the health system for the FPP was one of the main challenges that were pointed out by the studies. Role conflict and ambiguity among the Ministries of Health and the Ministry of Cooperatives, Labor and Social Welfare, and the lack of transparency and clarity about which authorities were responsible for implementing the FPP and the referral system contributed to problems in managing the system. There are also weaknesses in intersectorial and intrasectorial collaborations in the referral system (14, 19).

Medical universities are responsible for the implementation of the plan but they lack strong leadership, as their authority level in the health system is lower than the Ministry of Health and Medical Education and other stakeholders engaged in the implementation of FPP.

The Health Insurance Organization, which is responsible for monitoring the implementation, did not provide adequate supervision or allocate adequate resources to ensure its success (19). There was not full engagement by all stakeholders (medical system organizations, scientific associations, private sector, insurance companies, and medical system trade unions) in the decision-making and implementation of the program (14, 19).

Process

The weak role of the family physician as the gatekeeper of the health system was the subject of eight articles. These studies show that the family physician is ineffective at facilitating access to a specialist (16). Two-thirds of the referrals to a specialist were not through a family physician (22). Only 33% of referred patients had a referral form from a health center (23), and in only 31% of the cases, referral to a specialist was based on the decision of a family physician. The family physician is involved in selecting the specialist in only 17% of referrals. Self-referral (24), unnecessary referrals at patients' insistence, and failure to distinguish referred cases from self-referrals by specialists (24, 26), all contribute to this challenge. A high percentage (around 65% as reported by one of the studies) of referrals to a specialist were unnecessary (26).

Self-referral is more common among young people (<20 years) and educated people (23). Due to a lack of public confidence in the referral process, particularly a lack of trust in the family physicians' expertise, self-referrals that avoid the family physician as the gatekeeper are more common (14).

Another challenge of the referral process was the unclear process of referral from the primary to the secondary and tertiary levels (5 studies) (10, 24, 28).

Some studies described the current process as time-consuming (11) and lacking effective communication between different levels of care (29, 34).

Only 63.6% of the referral forms were fully completed (23). A significant percentage of the referral forms were incomplete or filled out by personnel other than the family physicians (14). The missing information included the referral code and diagnosis in the examination and radiology application forms, referral documents and insurance booklet, treatment provided before referral, and health records (11).

Inadequate patient information flow occurred in both directions. The family physician rarely received feedback from the specialist about the referred patients, disrupting the continuity of care of the patient as well as educational information for the physician (11, 14, 16, 25, 30). The percentage of feedback from the secondary to the primary level was low, <20%, according to a study conducted in the northern provinces of Iran (22). A study by Khayyati in rural areas showed that the feedback rate from the hospital to the health center was only 36% (31). Jahromi et al showed that family physicians received feedback from a specialist physician in only 57% of cases of the referred patients (32). The low percentage of feedback was attributed to the lack of a legal and obligatory system and a lack of cooperation by the specialist (11).

The poor cooperation of the specialists with family physicians was addressed in four articles (11, 14, 27, 28). Unacceptable behaviors towards the patients, insufficient working hours of the specialist in the secondary hospitals or the specialized clinics, absence during scheduled working hours, specialists' lack of trust in the family physicians' competency, failure to make the timely and necessary referrals to the relevant specialist by the family physicians, low service tariffs for the secondary-level referral specialists, inefficient performance of the specialists in the referral payment and incentive system, and the existing conflict of interest between family physicians and specialists (19) were reported as some of the reasons for this poor cooperation between the specialists and the family physicians (11).

Poor follow-up of referred cases was another challenge seen in multiple studies. Nasrollahpour et al showed that in the Northern provinces of Iran, <10% of the referred cases returned for follow-up by primary care (22). Khayyati et al showed that this number was only 3.17% in rural areas (31). Some articles showed that the reason for this was a lack of information about patients, as the primary care level does not receive sufficient patient information back from the higher referral levels (16).

Three studies suggested that the lack of a deputy within the Ministry of Health and Medical Education, specifically responsible for the FPP to address role conflict and ambiguity among ministries and organizations responsible for the FPP (14, 21), contributes to the referral system dysfunction.

Health Service Recipients

Unfamiliarity with the concept of the family physician, referral system, related services, benefits of the program, and lack of trust in the knowledge and capabilities of the family physician were major challenges that have led to noncompliance with the referral system (10-20, 33).

This is manifest in the insistence of patients or their companions on referral, self-referral, and lack of cooperation from patients in providing feedback (20). About two-thirds of referrals to the secondary care level were due to patients' insistence (22). Patients' insistence on referrals, not only results in unnecessary referrals but also weakens

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the role of family physicians as the gatekeepers of the referral system (16).

Even though family physicians resist the patients' insistence, they are still pressured for unnecessary referrals by other stakeholders, such as the governor and the district governor. While local institutions are required to engage and assist in advancing the FPP in different communities and provinces, on many occasions, they interfere with its success due to a lack of familiarity with the program (19, 20, 33). Table 3 summarizes the overall challenges of the FPP Referral System in Iran.

Discussion

The FPP of Iran, although a key element for the successful implementation of PHC and achieving health equity within the country, faces different challenges that limit its success. The effectiveness of the referral system in health program is related to the health care provider and receiver of health services (35). Studies suggest that many "effective changes" are necessary to this program to improve its performance and outcome (25). Meta-synthesis studies can provide a collation of and insight into the various reported problems with different aspects of the FPP. Previously, systematic reviews assessed the challenges and made an overall evaluation of this program (16, 25, 36). The present study focuses specifically on the referral system.

Although a strong and functioning referral system can have a great positive impact on the quality of the FPP, the evidence from many years of implementation suggests that currently it is one of the most important weak points of the FPP (14, 19-21, 25). We categorized the identified challenges into four themes as follows: (1) policy and planning; (2) management of the referral system; (3) the referral process itself; and (4) health service recipients.

Challenges associated with the policy and planning of the program in its referral system previously have been reported (36). These resulted from the hasty implementations of the plan without providing the necessary infrastructure and other necessary elements of a good program that include evidence-based guidelines and policy documents or scientific monitoring and evaluation. Gharibi et al reported a lack of "a well-defined mechanism for assessment" and a "government-owned monitoring and evaluation system" as the major deficiencies of FPP (37). Abad et al also reported this lack of monitoring and control mechanisms (38).

The referral system suffers from a lack of unified management that sets consistent strategies for all actors and stakeholders and specifies their roles and responsibilities. Further managerial issues included role conflict, the ambiguity of tasks, and insufficient coordination between the Ministry of Cooperatives, Labor, and Social Welfare and the Ministry of Health and Medical Education. Doshmangir et al identified fragmentation and a lack of cooperation at different institutional levels and emphasized the need for a close relationship between both the involved ministries and between the public and private sectors (10). Alaee et al reported the absence of effective coordination between the Ministry of Health and Medical Education and the Ministry of Cooperatives, Labor and Social Welfare, and further noted a lack of effective coordination between the treatment and prevention sectors within the Ministry of Health and Medical Education (39). Hooshmand et al and Kaskaldareh et al also noted the lack of inter- and intra sectoral cooperation (40, 41).

The referral system does not have a central referral triage (18), and there is no clear direction for a referral from the primary level to the secondary and tertiary levels. Janati et al showed that the referral system does not employ clear referral guidelines and structured referral templates (18), and they also reported the lack of a referral tracking system (18). This adversely affects the continuity of care after the referral, as the rate of patient follow-up with family physicians in Iran is low.

Many challenges to the referral system across the four themes identified are rooted in the lack of an accurate information interchange. There is an overall deficiency in effective, two-way communications—between family physicians and specialists, between the doctors and the patients, and between planners and both the medical and general communities (Figure 2). Gharibi et al identified "poor information Infrastructure" as one of the main challenges of the FPP in Iran (37). While improved information infrastructure is essential to improve mechanisms for communications, improved interpersonal skills, and professionalism are also needed.

Figure 2 shows lines of communication in the referral system. Breaks in any of the arrows result in dysfunction. Many of the challenges identified by the studies reviewed are the result of breaks in multiple lines of communication.

The current review identified the inefficient and weak gatekeeping role as one of the challenges of the referral process in Iran. A contributing factor to this is a conflict of interest between the family physician and the specialist (39, 42). Another factor is a lack of confidence in the family physician referrals by the patients. This is a common situation, exemplified by the findings of the study conducted by Verulava et al in Georgia, which showed that most patients preferred self-referrals to specialists (43).

The majority of physicians working for the FPP are typically less experienced than their specialist counterparts and lack residency training. They face interference regard-

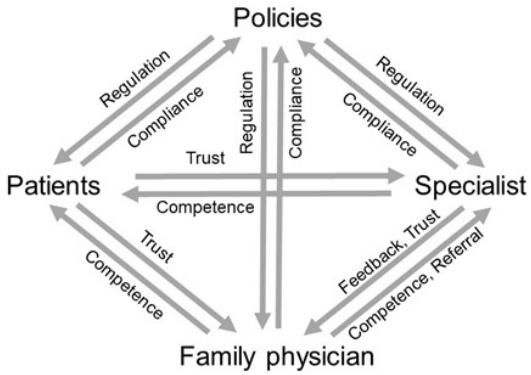

Figure 2. Lines of communication in the referral system

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ing referral practices from patients, specialists, and even local authorities. As young physicians, they may lack the confidence to make the system work the way it needs to. In addition, the lack of trust by both the patients and the specialists directed toward these "young, undertrained" physicians further undermines their ability to make the system function (20). Improved training, in the form of graduate medical education specific to the skills needed by the FPP, would achieve much in terms of improving confidence, competence, respect, and trust by all concerned. A well-trained family physician, effectively serving as "gatekeeper" in the referral system will be perceived, not as the "doorman of the concert hall" blocking entry, but as the "conductor of the orchestra" calling in each section of the health care orchestra at the proper time.

Limitations of the Study

The authors were unable to assess or justify the veracity of the gray literature, thus, they excluded it from the current study; as a result, some information might be missing in this review. In addition, the lack of access to International Statistical Institute articles was one of the main limitations of this study.

Conclusion

This systematic review identified different challenges of the referral system in the FPP of Iran, which need to be properly addressed in the replanning and further expansion of this program within the country. Lessons from this study could be used for planning similar programs in other countries that are going to implement a FPP in their country. These lessons could be summarized as the importance of evidence-based country-wise tailormade planning of the FPP, careful consideration of conflict of interest by introducing the FPP in the health care system, and proper awareness rising of the importance of the FPP within the local communities. Also, developing well-defined protocols and instructions for the referral system is of paramount importance for the success of this program in any country.

Authors' Contributions

A.H. contributed to supervising the whole project and contributed to the conceptualization and design of the study. M.A., M.R., B.F., I.D., and S.S. contributed to the conceptualization and design of the study. R.M. and B.H. participated in the conceptualization and design of the study, the data collection and extraction, and manuscript writing. M.K.H. contributed to reviewing the manuscript. All authors approved the final version of the manuscript as submitted.

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None

Conflict of Interests

The authors declare that they have no competing interests.

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