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A comprehensive model of health education barriers of health-care system in Iran

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Abstract:

BACKGROUND: According to the importance of health education (HE) in disease control and prevention and inadequacy of HE in the Iran's health-care system, clarifying the HE barriers is necessary.

OBJECTIVES: This study aimed to clarifying the comprehensive model of HE barriers of health-care system in Iran.

METHODS: This qualitative study was conducted in 2019. Twenty-one health experts and physicians at different levels of the health system, a former health deputy of the Ministry of Health, and 26 community health workers (CHWs) were selected through purposive sampling. Data were collected through semi-structured individual interviews and group discussions and analyzed simultaneously by conventional content analysis.

RESULTS: Five themes were extracted including individual barriers (most important categories: inadequate ability of CHWs in HE, poor motivational factors at individual level, and educator's wrong beliefs), interpersonal (most important categories: weakness of other health-care providers in the education of CHWs, lack of proper understanding by health authorities of scientific and correct HE, inappropriate communication, unrealistic expectations from CHWs, problems with monitoring and supervision, poor work commitment, and client-related problems), organizational (most important categories: high workload of CHWs, problems related to educational resources, inappropriate attitude of managers and officials, and inappropriate evaluation and monitoring), community (most important categories: not believing CHWs by people, people's disinterest and lack of motivation in education, cultural problems, problems with the Internet and virtual social networks, and weak cross-sectoral cooperation), and contextual barriers (most important categories: barriers related to universities, broadcasting, the nature of HE science, as well as gap between practical education and theory).

CONCLUSION: Considering the multidimensional barriers such as individual, interpersonal, organizational, community, and contextual barriers, compiling and executing a comprehensive document with the participation of authorities, specialists, and service providers is recommended to remove barriers. This is in line with the Ottawa Charters' "reorienting health services."

Keywords:

Barriers, health education, health-care system

Introduction

Primary health care (PHC) in Iran includes a network of health houses, health posts, and comprehensive urban and rural health-care centers that are under the supervision of the district health center and the provincial health center. Health houses are located in villages and are the most basic unit of the PHC network in Iran. Comprehensive rural health-care centers are the second level of the rural health-care network, which in addition to health promotion (HP) and prevention activities, also provide health care and monitor the

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activities of health houses. Health posts are the first level of contact (similar to health houses) for urban areas. Comprehensive urban health-care centers are the second level of the PHC network that supervise health posts. District health centers and provincial health centers are the next levels responsible for planning, monitoring, and evaluating health plans at the district and provincial levels, respectively. These health networks are under the supervision of the relevant university of medical sciences, and the universities of medical sciences themselves are affiliated with the Ministry of Health and are monitored by the Ministry of Health.[1,2]

Iran's health system has improved the health status of Iran over the past four decades based on PHC. However, the system also has limitations, while PHC is very effective in reducing the morbidity and mortality of infectious diseases and acute conditions, it is less effective in addressing chronic diseases and multifactorial conditions that are occurring in Iran.[3]

PHC should be reviewed based on demographic and epidemiological changes; however, this is partially being reviewed. For example, community health workers (CHWs), as the cornerstone of rural health-care systems, still retain their earlier tasks based on the prevention of communicable diseases, rather than on HE and HP activities related to noncommunicable disease risk factors.[4,5]

It seems that the weakness of HE in Iran's health system[6,7] is one of the most important causes of failure of this system in addressing the current problems of the health system, especially chronic diseases. However, HE is one of the main responsibilities or duties of health workers, especially in the area of PHC.[8,9]

Given the adverse HE situation in Iran's health system, several studies have investigated the barriers to HE; in one study, ineffective learning and teaching processes, lack of motivation of health educators, communication gaps, and lack of sources and facilities for teaching and learning were identified as the most important barriers of HE.[6] Hamidzadeh *et al*. showed that factors such as lack of trust to rural health workers, adherence to local social networks in seeking health information, and lack of understanding of the importance of HE were barriers of public participation in HE programs.[7] In addition, Rubio-Valera *et al*., by reviewing the studies of different countries of the world in a systematic review, found that factors influencing primary prevention (PP) and HP activities at five levels of ecological model include intrapersonal factors (professional beliefs about PP and HP, experiences, skills, knowledge, and self-concept), interpersonal processes (attitudes and behaviors of specialists, managers, and colleagues toward PP and HP of patients), institutional factors (high workload, lack of time and resources, and biomedical mastery), community factors (patient's cultural and social characteristics, local resources, mass media messages, pharmaceutical industry campaigns, and giving importance to PP and HP in university curriculum), and public policy factors (the effect of policies on resource distribution and ultimately the effect on the implementation of PP and HP programs).[10]

Although various studies have investigated the barriers of HE, there is a lack of comprehensive study in addressing health education (HE) barriers at various levels (from the Ministry to the health house) of the health system. On the one hand, given the variety of differences, including cultural differences and differences in health service delivery systems in different countries, it is necessary to examine the subject in the context of each country, so given the complexity of the issue of HE, a qualitative study seems necessary to identify the barriers precisely. Therefore, in order to achieve the reality of HE problems from the perspective of health-care workers and staffs at all levels of the health system, this study was designed and implemented to explain the comprehensive model of HE barriers of health-care system in Iran.

Methods

This qualitative study was conducted through conventional content analysis method in 2019. Twenty-one health professionals including five experts from the Health Department of the Ministry of Health, four academic staffs, two general physicians from the comprehensive health-care center, five teachers from CHWs' school, and four experts from the comprehensive health-care center, and a former health deputy of the Ministry of Health were recruited for the individual interview, and 26 CHWs working in health houses were selected through purposeful sampling to participate in group discussion sessions in six group. Individual interviews were done in their participants' office, and group discussions were done in CHWs' school. Inclusion criteria were those working full time and having at least 6 months of work experience; those attended group discussions; and having the ability to express their experiences, opinions, and views. Exclusion criteria were the unwillingness of individuals to continue to participate in the study or their dissatisfaction with recording the interview and group discussions. Purposeful sampling with maximum diversity was used to select the study participants. The study participants were diverse. Interviewees were selected from all levels of the health-care system, and CHWs were selected in terms of education level, work experience, and different areas undercover of the university.

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Semi-structured individual interviews and focus group discussions were used to collect the data. Focus group discussion sessions and interviews were conducted by the principal investigator, who introduced himself at the beginning of each session and provided explanations about the study goals and purpose of the session. At this phase of the study, interview sessions and group discussions were also recorded with the consent of the participants in order to ensure accurate and complete recording of the sessions. Depending on the conditions and readiness of the participants, the duration of each interview session and group discussion lasted approximately 40–90 min and 60–120 min, respectively. Sessions continued until data saturation. After five sessions of group discussion, the data were repeated, but for more assurance, the data collection was continued up to six group discussions with six groups (a group of six men, a group of five men, a group of five women, a group of three women, a group of four women, and a group of two men and one woman). In addition, the data were repeated in the individual interviews after the 19th participant, but continued to the 21st participant for greater confidence.

The group discussion sessions were conducted in this way: at the beginning of the group discussion, the members introduced themselves. According to the opinions of the group members, the tasks of the group members were defined and they were given the necessary explanations about the members' duties. The researcher participated as a facilitator alongside the groups and asked general questions to enter into the discussion, for example, what barriers did you experience in HE? He assured the participants that there was no wrong or true answer and each view considered very important and valuable. The researcher asked the members to state their views in spite of agreeing or disagreeing with the opinions of other colleagues. Further, according to the interview guide, gradually, deeper and more accurate questions were raised in line with the purpose of the research. In case of ambiguity, the participants were asked to provide further explanation and examples. In the interview sessions, after asking the demographic information of the participants, the type of questions and the manner of asking were designed and done similar to group discussion.

During the interview and group discussion sessions, the researcher did not share his previous beliefs and avoided directing the study participants' conversations.

Conventional qualitative method with Graneheim and Lundman's content analysis approach was used for data analysis.[11,12] The group discussions and individual interviews were recorded and then typed at the earliest opportunity, first by listening to their audio files and then by typing word by word. After typing interviews and group discussions, their text was compared to the corresponding audio file, and the accuracy of the recorded data was checked. After that, the data were transferred to software MAXQDA10 for coding and analyzing the data. The texts were carefully studied and the original codes were extracted. This process was performed simultaneously with data collection. Coding of the data continued until the end of the data collection phase, and then the open codes were subdivided into more general primary codes, and similar codes were grouped and subcategories were formed. In the next step, the similar subcategories were grouped together, and the main categories were formed and the themes were extracted in the next step. It should be noted that during the data collection and analysis process, the principal investigator recorded any idea and mental sparks related to the data that came to mind and used them for the next interview.[12]

The Credibility, Dependability, Confirmability, and Transferability criteria proposed by Guba and Lincoln were used to verify the scientific results.[12,13]

In order to investigate the credibility of the data, in addition to the principal investigator, members of the research team (several researchers) were also actively involved in the process of collecting, analyzing, and interpreting the data. Multiple sources of information were used, in a way that interview was done with health professionals at all levels of the health-care system that had direct and indirect experience with the participant. On the other hand, two methods of group discussion and individual interview were used for data collection. In addition, the extracted codes were provided to a number of participants in the study, and the consistency of the codes by their experiences was assessed.

For dependability of the study, the written texts of the group discussions and individual interviews were coded again after a few days, and their comparison was done for stability and consistency of the codes. For confirmability of the study, the researchers did not include their previous beliefs when collecting and analyzing the data. Interviews were also coded independently by two members of the research team.

In order to verify the transferability of the study, the study method is accurately and step by step explained, which includes detailed information of the study participants, the method of data collection, as well as analysis and interpretation of the data. The data extracted were also evaluated by two HE professionals that were familiar with the qualitative studies and were outside the research team.

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Results

The study involved 47 participants including a former health deputy of health ministry, a male and a female physicians, 13 female health experts, five male health experts, and 13 male and female CHWs. Five themes on individual, interpersonal, organizational, community, and contextual barriers were extracted. At individual level, barriers consisted of five categories; at interpersonal level, barriers consisted of nine categories; at organizational level, seven categories; at community level, six categories; and at contextual level, five categories were identified [Table 1]. The comprehensive model of HE barriers in the Iran's health system is shown in Figure 1.

The theme of individual barriers

Individual barriers are those barriers that are related to the educator. This theme includes inadequate ability of CHWs in HE, poor health of CHWs, poor motivational factors at the individual level, educator's wrong beliefs, and individual contextual barriers.

Inadequate ability of community health workers in health education

From the perspective of the participants, one of the barriers to HE was inadequate capacity of CHWs. They acknowledged that things such as low self-efficacy, poor education, inadequate skills, inadequate information, and inadequate life skills made them inadequate for HE. *"Our skill and capacity are not really great at all. I don't see myself as to conduct a useful session for the people"* (a male CHW in group discussion 1).

Poor health of community health workers

From the perspective of the participants, poor health of CHWs led to not being able to adequately educate clients. The participants cited inadequate physical and mental health as well as burnout, which made them unable to provide appropriate services, including good HE. One participant pointed to poor mental health of the CHWs and their role in lowering the quality of service delivery, and said, *"Give a test of the psychology from each of the CHWs, take it randomly nationwide. Let's see what the level of our nerve is? And can anyone with this level of nerve be able to serve? See with what power we're serving"* (a male CHW in group discussion 2).

Poor motivational factors at the individual level

From the participants' viewpoint, low motivational factors at the individual level are a barrier of HE. The participants acknowledged that lack of intrinsic motivation for HE, lack of attention of official to CHWs, and lack of awareness of CHW among people, led to poor personal motivation of CHWs for education. One participant pointed to the interest and motivation of the CHWs in education and said: *"Maybe it's their interest. They may not have the motivation because sometimes, for example, I love a work so much and I really want to do it"* (a participant 18, female health expert).

Table 1: The themes and categories of health education barriers in Iran's health-care system

Theme	Categories
1. Individual barriers	1. Inadequate ability of CHWs in HE, 2. poor health of CHWs, 3. poor motivational factors at individual level, 4. educator's wrong beliefs, 5. individual contextual barriers
2. Interpersonal barriers	1. Weakness of other health-care providers in the education of CHWs, 2. low motivational factors at interpersonal level, 3. lack of proper understanding by health authorities of scientific and correct HE, 4. inappropriate communication, 5. unrealistic expectations from the CHWs, 6. low value and insignificance of HE in comprehensive health centers, 7. problems with monitoring and supervision, 8. poor work commitment, 9. client-related problems
3. Organizational barriers	1. Weakness in human resources empowerment, 2. inefficiency of the management system, 3. high workload of CHWs, 4. low level of motivational factors at organizational level, 5. problems related to educational resources, 6. inappropriate attitude of managers and officials, and 7. inappropriate evaluation and monitoring
4. Community barriers	1. Not believing CHWs by people, 2. people's disinterest and lack of motivation in education, 3. people's economic problems, 4. cultural problems, 5. problems with the Internet and virtual social networks, and 6. weak cross-sectoral cooperation
5. Contextual barriers	1. Barriers related to universities, 2. barriers related to broadcasting, 3. barriers related to the nature of HE science, 4. gap between practical education and theory, 5. nonscientific way of designing and implementation of large-scale ministry projects

CHWs=Community health workers, HE=Health education

Educator's wrong beliefs

From the perspective of the participants, some beliefs are seen as a barrier to HE. The participants acknowledged that things such as the lack of belief in education and the lack of belief in educational content, have led to the fact that educators do not care about scientific HE, and sometimes even teach their own views instead of scientific content. *"Because I, in ordinary words that sometimes hear while visiting a patient; for example, say that CHWs teach what is in their own beliefs, for example, about diarrhea, don't give the baby water, as it will lose it, or if your baby doesn't eat milk, you make start an auxiliary milk powder"* (participant 23, a female physician).

Individual contextual barriers

From the view of participants, some contextual barriers to personal life or personal characteristics of the health educator are considered as barriers to HE. In this context, the participants cited factors such as disregard

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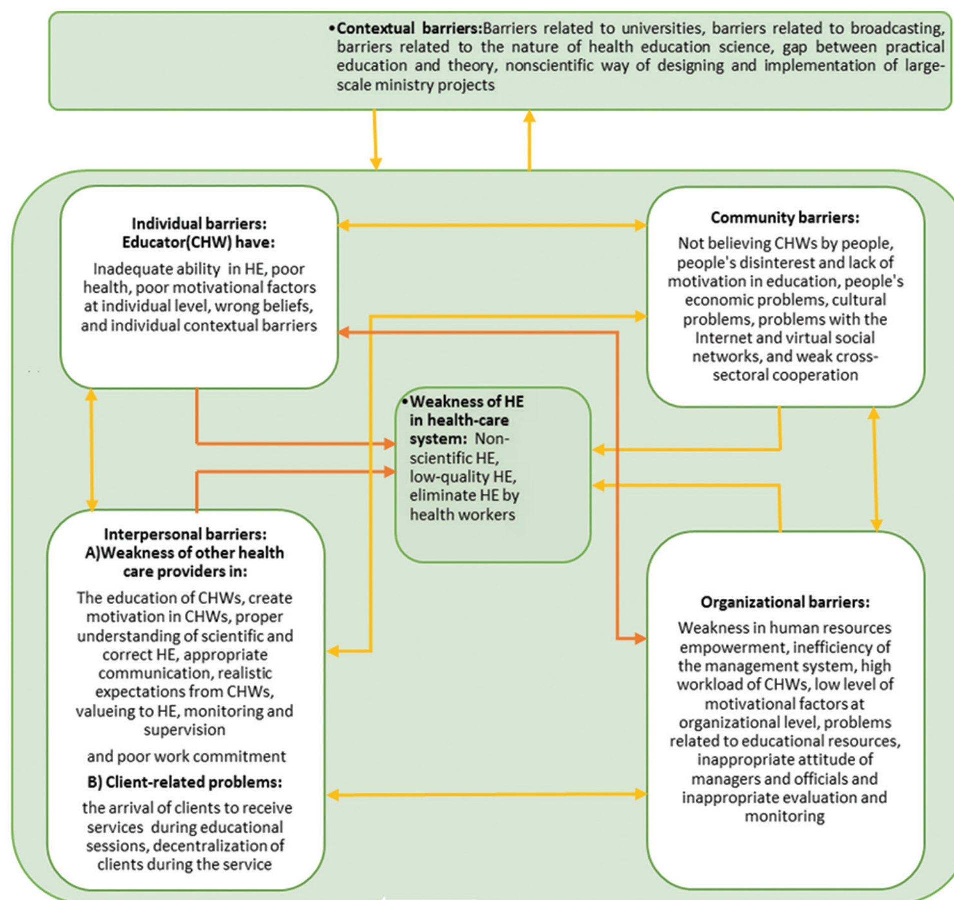

Figure 1: Comprehensive model of health education barriers in Iran's health-care system

for professional ethics, home (family life) problems, and health educator economic problems that are considered barriers to HE. In this context, a participant pointed to individual contextual barriers that could not be a good model for the society because of financial problems, saying, *"Even we don't have anything, now we can't, by God, then we have to be a model myself. I should be able to do it, I need to say that I've done it and how useful it was, how many percent it affected me, whether you buy it or do it, how many percent does it affect yourself or your family"* (CHW in group discussion 2).

The theme of interpersonal barriers

Interpersonal barriers are the barriers that occur in the interactions between the educator and other people in direct contact with him/her. This theme includes categories of the weaknesses of other health-care providers in the education of CHWs, low motivational factors at the interpersonal level, lack of proper understanding by the authorities of scientific and correct HE, inappropriate communication, unrealistic expectations from CHWs, low value and insignificance of HE in comprehensive health centers, problems with monitoring and supervision, poor work commitment, and client-related problems.

Weaknesses of other health-care providers in the education of community health workers

According to the participants, the weaknesses of other health-care providers, as a barrier, make them not to be able to properly educate their CHWs. About this subject, one of the participants pointing to the inability and skill in the HE subject said that: *"I'm just trying to use it in class, to use this method, because of the time we have on the one hand, and we're not really professional, we're not enough skillful., I think it's a problem that is very high and frequently seen in this field"* (participant 18, a female health expert).

Low motivational factors at the interpersonal level

From the perspective of the participants, the staff interacting directly with the CHWs (physicians and experts) do not care about the educational programs, so from their perspective, CHWs who educate appropriately are not different from those who ignore this issue. This factor reduces the motivation of CHWs. One participant pointed out the importance of interaction between staff and CHWs and said, *"I say the staff's attitude towards CHWs is very influential in their performance, one person for example educates, I do not care that you have trained"* (participant 20, a male physician).

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Lack of proper understanding by the authorities of scientific and correct health education

From the participants' point of view, the authorities do not have a proper understanding of the scientific and proper education; accurate and scientific education requires careful planning, implementation, and evaluation and is a time-consuming process. One participant believed that because the authorities do not have an accurate understanding of this issue, they only emphasize the quantity of education and said, *"Because of the pressure that the organization is really imposing, all unit officials need education, all units are saying that you should have this much education. You should have educated this much people, for example today there are two pregnant mothers in the health house, three elderly, one person for example is now to control her pregnancy, there are five or six people, okay, now sit down so I teach, while this education isn't only useful, but it's harmful, better not be given than given"* (participant 12, a female health expert).

Inappropriate communication

From the participants' perspective, interpersonal communication problems are one of the barriers of HE. The participants cited inappropriate communication of personnel with CHWs, inappropriate communication of personnel with each other, inappropriate communication of some personnel with people, inappropriate communication of CHWs with themselves, and inappropriate communication of people with CHWs. One participant pointed to the inappropriate communication of staff with CHWs, which undermines the status of CHWs and thus disparages his speech and educations among the people, saying: *"The midwife that is responsible of monitoring and supervising me, behaves really rudely with me although I'm as her mother"* (a CHW in group discussion 3).

Unrealistic expectations from the community health workers

From the perspective of the participants, the expectations and activities that the staff of higher level health-care network have from the CHWs, are beyond their potential. The participants acknowledged that the expected activities from the CHWs were unrealistic in terms of workload, type of work, and knowledge and skills required. When they do not have the needed knowledge and skills, they cannot educate people in that subject. One participant pointed to unrealistic expectations, and on the other hand, lacking the knowledge and time to carry out the requested activities, saying, *"They really know it, certainly they all know it, they are several units, communicable disease unit, non-communicable disease, occupational health, environment health. And now I want to say one more thing. For example, the environment unit comes up with something, you do it, the disease unit does something else. they don't even think that this CHW really hasn't enough science to offer such things, or in about time, does he have that time?"* (a male CHW in group discussion 2).

Low value and insignificance of health education in comprehensive health centers

One participant pointed to the insignificance of HE in comprehensive health centers, stating the reason: *"CHW usually does not also do something when the physician isn't following up., because when the routine process is spent, education is usually the last stage, but if the education is to become a priority, there will definitely be a challenge between the CHW and the physician, and usually the doctor who wants to do it says I'm here another year, I'm in the course for 19 months. I want to go and not to challenge the CHW"* (participant 20, a male physician).

Problems with monitoring and supervision

From the participants' point of view, problems related to monitoring and supervision by staff interacting with CHWs are a barrier for lack of improvement in the quality of educations. The participants cited factors such as adverse monitoring feedback, adverse monitoring, and nonmonitoring due to bilateral weaknesses (supervisor and supervised weaknesses). One participant pointed to the lack of supervision and said: *"There is low supervision Doctor; if supervision is increased, every expert obliges himself, when geos to investigate, asks them for a proper notebook, asks for plans, or asks them pretest, posttest if needed, I think it should be done more strongly, here we can't investigate 120 health houses, but expert coworkers, can easily do it."* (participant 18, a female health expert). Another participant pointed out the inappropriate way to monitor the health of the CHWs during a work day and said, *"I plan for myself in the morning, what to do today at work, I am still thinking of planning, I open the door, once 3 people come for monitoring, all your plan is finished. Someone comes and the monitoring maybe done within 10 min; yesterday a female colleague came and her work could be done in ten minutes; she came from eight and a half to one and a half in the afternoon. I could do everything in ten minutes. She was also entertained"* (a female CHW in group discussion 2).

Poor work commitment

The participants believed that some physicians and experts did not perform their duties properly to educate people, and cited issues such as lack of co-operation or breaching of promise in educating people, low work conscience, low work commitment, and low work of some staff. One of the participants said in this regard: *"Physician, midwife, and expert do not just getting themselves involved in an education session anymore; only the CHW comes and educates. The CHW should do any things for holding the session to ladies or gentlemen (Physician, midwife and…) educate people"* (female CHWs in group discussion 1).

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Client-related problems

From the participants' point of view, interference with educational programs with the arrival of clients to receive services, decentralization of the educator due to the presence of clients, as well as the decentralization of clients during the service, are the barriers to desirable education. One participant pointed to the interference of education programs with the arrival of clients to receive their service and decentralization for his focus for education, and said, *"For example, I invited five people into my work environment, educating them. Clients keep coming through the door, four or five babies cry. Assume it needs vaccine. I don't know what I'm saying, I just want to finish the session so as to reply the answer to these clients"* (a female CHW in group discussion 1).

Organizational barrier theme

Organizational barriers are barriers that are related to the inadequate efficiency of system processes and structures. This theme includes categories of weakness in human resources empowerment, inefficiency of the management system, high workload of CHWs, low level of motivational factors at organizational level, problems related to educational resources, inappropriate attitude of managers and officials, as well as inappropriate evaluation and monitoring.

Weakness in human resources empowerment

From the participants' point of view, employee empowerment programs were not desirable, and empowerment education programs were primarily theoretical and not capable of skill building and second, the educational content of the educational programs is nonfunctional. One participant pointed to the weaknesses of empowerment workshops in building their skills and their emphasis on memories, saying: *"Especially for educational sessions, they hold workshops for us now, hold workshops for CHW. Our workshops and CHW look useless. Because it's a waste of time, I go to workshops, for example. They are holding an education session. They give me a booklet, and read the booklet from start to finish. That reading booklet is of no use"* (participant 16, a female health expert).

Inefficiency of the management system

From the participants' point of view, the inefficiency of the management system is one of the obstacles to optimal HE. In this context, the participants pointed to issues such as system disorganization and system disorder, lack of appropriation of educational programs, and inefficient HE processes in the system. One participant noted the lack of coordination of ministry units and said, *"One of the major problems is the lack of coordination of ministry units with HE unit in terms of educational programs"* (participant 8, a female health expert). Another participant pointed to disorganization and said, *"Now with the harms imposed to the health system, people can see, it's because of the disorganization above"* (participant 12, a female health expert).

High workload of the community health workers

From the perspective of the participants, the high workload reduces or removes the quality of educational programs. In this context, the participants pointed to tasks such as the extent of tasks, the high population undercover, informal work, high levels of higher level communicative programs, high rate of repeating things in the system, and eliminating or reducing the quality of HE programs due to their high workload. One participant pointed out the inability to hold an educational session because of the high workload, *"The health house is really overworked; workload is high and human force is low; for example I am overcrowded, overworked, I can't hold a session once a week for 10 or fifteen people; during the work we have clients; that's impossible"* (a female CHW in group discussion 1).

Low level of motivational factors at the organizational level

From the perspective of the participants, the existing organizational structures reduce the motivation for educational programs. In this context, the participants have identified problems such as continuing education of the CHWs, lack of disproportion of payment, lack of organizational support, disregarding HE and prevention in system such as payments, lack of attention to the CHWs by health officials, problems with plans and programs, and staff discouragement because of the failure in solving HE problems in the system. One participant pointed to the lack of association between educational activities and payments and said, *"Payments are based on the SIB registration system (Iranian health information registry system), meaning that we now have the system's priority rather than education"* (participant 23, a female health expert).

Problems related to educational resources

From the perspective of the participants, the limitation and lack of educational resources is a barrier of HE. The participants acknowledged that the lack of educational space, lack of information systems to attend sessions, restriction of educational materials and tools, limited human resources (deficiency and incapacity), and shortage and misuse of financial resources lead to inefficiency in HE. One participant pointed to a lack of resources and said, *"Well, the facilities are effective, too. Well, in a health house that doesn't have facilities, even an educational class that wants to have a education session, so of course. If it is dominant in its information, communication and teaching methods but when it does not have the space, it does not have the facilities, it would face problems, for example, when we do not have a physical classroom, we don't have an*

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overhead data or a projector, or even can't prepare it. It will make problems" (participant 13, a male health expert).

Inappropriate attitude of managers and officials

From the perspective of the participants, inappropriate attitude of managers and officials has led to poor HE in the system. The participants acknowledged that things such as quantity orientation and neglect of headquarters units to the quality, the low value and insignificance of HE, and, generally, the inadequate attitude of managers and officials to the HE unit led to inefficiency in HE. One participant pointed to the inappropriate viewpoint of the managers and said, *"During these years, the HE unit is recognized as an almost sub-unit. And when I talk to my colleague at other universities, they say they have a negative viewpoint towards the HE; they say it's a unit that doesn't do anything; they realize that they don't do anything, so look, shouldn't their absence and presence differ. One of the health deputies said if I was in my hands, I would eradicate the HE unit*" (participant 19, a male health expert).

Inappropriate evaluation and monitoring

From the participants' point of view, structural problems related to monitoring and evaluation in the organization have made the evaluation and monitoring system ineffective and of low quality. In this context, the participants cited factors such as limiting monitoring and evaluation to form completion, poor supervision, poor monitoring, and poor evaluation. One participant pointed to the limiting of monitoring and evaluation to completing form and the lack of feedback that lead to the lack of motivation, saying, *"If I do it or not do it with quality or with no quality, it doesn't work, these things are really annoying"* (participant 12, a female health expert). Another participant pointed to structural flaws in monitoring and evaluation, saying: *"A person, for the reason that there's no supervision when they leave, no one asks them; in my opinion, if they add an item in an annual evaluation of CHW or, in general, employees. Well. No one ever asks, are you satisfied with this education? Were you educated? Did you use it? If somewhere it's asked, for example, those who educate well, communicate well, become distinguished, stand out from the rest, give them an incentive to become known, for example, to be evaluated*" (participant 16, a female health expert).

Theme of community-related barriers

Barriers related to community are barriers that affect educators, clients, and HE from within the community. This theme includes categories of not believing the CHWs by the people; people's disinterest and lack of motivation in education; people's economic problems, cultural problems, and problems with the Internet and virtual social networks; and weak cross-sectoral cooperation.

Not believing the community health workers

From the perspective of the participants, people do not believe in CHWs for education and because they do not believe, their educations have no effect on people. In this context, the participants pointed to issues such as the inability of the CHWs to meet people's expectations, the inability of the CHWs to identify real needs from the perspective of people, and not accepting the CHWs for education. One participant pointed to the lack of obedience of the people from the CHWs and said, *"People do not listen to doctors now, one CHW who is now living with the people themselves, nobody listens to him at all."* Another participant pointed to the higher knowledge of people than of CHWs and said, *"People are so aware. they know the whole thing and what you want to say now we know ourselves, they don't accept what we want to provide them in health houses"* (a male CHW in group discussion 2).

People's disinterest and lack of motivation in education

The participants believed that people's disinterest in education had weakened education in the system. The participants cited poor public participation in educational programs and lack of motivation, impatience, and disinterest. One participant pointed to the patience of the people and said, *"People are impatient, they may not have the opportunity to learn educational material or sit in a session"* (participant 19, a male health expert). Another participant noted people's dislike for education and said, *"To form an education session we have to call and beg so much that we want to educate them"* (a female CHW in group discussion 2).

People's economic problems

The participants believed that economic problems make people unable to comply with health advice. A participant pointed to people's economic problems and said, *"Economic problems are very affective and their problems are increasing day by day. We were teaching a mother about nutrition, and then I said, for example, eat that, and that. She said a poem: If there is no tooth, bread can be eaten, but problem is the day that there's no bread. She said if there's these things I can't?"* (a male CHW in group discussion 1).

Cultural problems

The participants believed that many cultural problems made their education ineffective. In this context, the participants cited incorrect beliefs and values, mistrust, poor educational culture in the society, undesirable social phenomena, and unrealistic expectations from the CHW by people. A participant pointed out how community culture can make education ineffective and said: *"Community culture is the most important part of their beliefs. Changing the culture of society and the beliefs of these kinds of things takes time. Our colleagues are impatient. It has sometimes been that influential people in families, such as grandfathers, grandmothers, or other individuals, even spouses,*

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have influence over his wife. I find that whatever we say, for example, don't consume solid oil, does not work. She goes to the education session, again does her work" (participant 18, a male expert). Another participant in this context said: *"Marriage in low ages is very much. We are working on an educational discussion. This is culture; it does not change overnight, nor is it created overnight. No long-term program is adopted. I myself been talking to a mother for two years, the next week she's got her daughter married. In fact everything I said is nothing. She says: Madam, they say her daughter's remained in the home, what can do to what people say?"* (a female CHW in group discussion 2).

Problems with the Internet and virtual social networks

From the perspective of the participants, due to the lack of accurate supervision and management of the Internet and the virtual social networks, this has become a challenge in the field of health and HE. In this context, the participants pointed out things such as people's disinterest to in-person education because of access to information over the Internet, inaccurate information on the Internet, and people's inability to use the Internet correctly. One participant pointed to people's lack of interest in education because of access to the Internet, saying: *"People's disinterest to the issue of education, with things like Telegrams and the Internet is because they have the information; for example there was a topic on Telegram and the Internet about that subject"* (a female CHW in group discussion 2). Another participant pointed out the information on the Internet and the inability of CHWs to respond to people's questions, saying, *"People get something wrong from the Internet, I have to be strong enough to reject the mistakes she says. We were explaining such this during a session. Then one asks a question, that I don't get shocked. This happens a lot, like… What was that? What can I reply?"* (male CHWs in group discussion 1).

Weak cross-sectoral cooperation

The participants believed that organizations and institutes outside university do not have the necessary co-operation in HE. In this context, the participants referred to the weaknesses of cross-sectional cooperation at the village level, the weakness of cross-sectoral cooperation at city district, and the weakness of cross-sectoral cooperation at the national level. A participant noted the lack of commitment by organizations in the area of health and HE and said, *"If I came out of traffic department, and there's some task assigned to me in that session, I don't have executive commitment to do it. If I don't, nothing will happen. What health asked me to do, may own organization didn't' want me"* (participant 12, a female health expert). In addition, the participant pointed to the weak cooperation of other departments and said, *"For example, we have an urgent need, for example we want to use billboards, to take out banners to install. A lot of administrative process has to go through so that our banners, be installed on billboards. It won't be installed if not paid for the installation. This interaction is even so low, that is, to the extent that our departments have not really realized their role in health"* (participant 12, a female health expert).

Theme of contextual barriers

Contextual barriers are the root causes of barriers and problems at different levels. This theme encompasses the categories of barriers related to universities, barriers related to broadcasting, barriers related to the nature of HE science, as well as the gap between practical education and theory, as well as nonscientific way of designing and implementation large-scale ministry projects.

Barriers related to universities

The participants believed that universities were not able to provide students with the necessary HE skills and capability. The participants acknowledged that inadequate educational content, poor capacity of some professors, poor capacity of some students, and not giving importance of some universities to the issue of HE in student education, have resulted in poor university graduates in HE. One participant pointed to the poor capacity of some professors and said, *"We even had it in the college education, for example, one health educator came and educate, they were weak people themselves, they were very weak. For example, they had nothing to do with their educational issues, they came to teach and had nothing to do with HE"* (participant 19, a male expert). Another participant pointed to the weaknesses of universities in empowering students and said, *"Experience is helping us, not the books we have been studying during this time. I got my bachelor's degree, but all the lessons I studied didn't benefit me, it was just the experience of working with people, I learned empirically"* (participant 16, a female health expert).

Barriers related to broadcasting

The participants believed that part of the problem of HE was related to broadcasting, and in this regard pointed to inconsistency of broadcasting education with the Ministry of Health and the lack of use of potential of mass communication media, such as television. A participant said: *"But in this educational program, a few experts may talk. This is not done. It has less cost but more effective. But this is not done"* (participant 19, a male expert). Another participant said: *"One of the problems is the incompatibility of broadcasting education with the Ministry of Health"* (participant 8, a health expert).

Barriers related to the nature of health education science

From the perspective of the participants, the complex nature of HE science as a barrier prevents it from being used in the health system. The participants in this context noted the complexity of HE science, the lack of a gold standard in HE, the timeliness of scientific and accurate

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HE, and the lack of skill definition for HE. A participant pointed to the complexity of HE science and the inability of CHWs to apply this science and said: *"So I think this is not really doable for CHWs with that details and the difficulty that what are the models? What is the theory? I don't know what to do with any of these"* (participant 12, a female health expert).

Gap between practical education and theory

The participants believed that the theoretical foundations and theory of HE science could not be applied practically in the health system and believed that part of the problem was related to the HE authorities and another other part was related to the ministry. A participant pointed to the limiting of HE science to university classes, saying, *"Look that HE if merely said in postgraduate and PhD classes, is not to be buried in them, rather it should go in the community and can make this connection"* (participant 3, a male health expert).

Nonscientific way of designing and implementation large-scale ministry projects

From the point of view of the participants, some large-scale plans of the ministry are not scientifically designed and implemented, which neglects the issue of prevention and HE. By pointing out the unscientific design method and the implementation of macro plans, a participant pointed out that: *"Many of these services can now be offered to the public in a different way, and the government costs much less, but the thing is not investigated"* (participant 20, a male physician).

Discussion

The results showed that from the participants' point of view, the barriers to HE were classified into five levels of individual, interpersonal, organizational, community, and contextual barriers. On the other hand, the barriers were intertwined between different levels. On the basis of the comprehensive model of barriers [Figure 1], the barriers can be classified into multidimensionality, multilevelity, and entanglement at different levels and different dimensions, so the subject led to weakness of HE in health-care system including nonscientific HE, low-quality HE, and elimination of HE by health workers, therefore it seems that if only one level is mitigated or barriers removed, the barriers and problems to HE will not be resolved. Therefore, to fully address the barriers of HE, a comprehensive approach should be taken into consideration, and the barriers should be removed at different levels and layers. The present study showed that one of the barriers of HE is individual barriers, which is consistent with various studies[6,14-22] on HE and patient education. Although different topics have been used in various studies, different types of individual barriers have been mentioned in different ways. Of course, as the present study has collected data from the experts' viewpoints at all levels of the health system, it seems to address much broader and deeper aspects of the subject, so considering the importance of individual barriers, it is suggested that in collaboration with stakeholders, caregivers, and CHWs, appropriate interventions including educational interventions be designed and implemented to address individual barriers and enhance the capacity of CHWs in the field of HE.

Based on the results of the present study, interpersonal barriers were identified as one of the barriers to HE, which is in line with various studies[6,7,15-17,22,23] in HE and patient education. Although interpersonal barriers are not mentioned in various studies, many of these barriers indicate the importance of interpersonal barriers. Therefore, it is suggested that all staff who are in direct contact with CHWs be trained on factors such as motivation, quality improvement, and proper monitoring and supervision in order to mitigate or eliminate interpersonal barriers. On the other hand, the high and valuable position of the caregivers must be introduced to the society through various ways, including mass media, social networks, and the health system, and thus by removing interpersonal barriers, an important step can be taken in the improvement of HE status in the health system.

According to the results of this study, one of the barriers to HE is organizational barriers, which is in line with the results of various studies[6,15,21,23-26] in HE and patient education. However, some of these studies did not use the term "organizational factors" exactly. Of course, some studies[10,17] have mentioned organizational barriers, but the type of organizational barriers is not consistent with the present study. This appears to be due to the limited scope of studies at the level of service delivery on the one hand and to differences in the culture of countries and the structures of the health-care delivery system on the other hand. Although various studies have pointed to the role of organizational factors, it appears that, as other studies have not examined higher levels of the health system, they have failed to address the root causes of the problems. In the present study, regarding the fact that based on the investigation of the factors dealt with from the highest level (Ministry of Health) to the lowest level (health house), the roots of many barriers were identified. Many organizational problems are also interconnected and reinforce each other. Therefore, it seems that in order to solve organizational problems and barriers, these root causes and breakdown of defective loops need to be addressed with a holistic view. For example, problems such as more emphasis on quantity rather than qualityas well as inappropriate evaluation

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and monitoring create various problems as following ; there was not coordination between the different departments of the ministry, so each department communicates a large volume of education programs to its subordinates in medical sciences universities. There was not coordination between the departments of health deputy of medical universities, so each department communicates a large volume of education programs to the subordinates and eventually, a high volume of educational programs reaches the CHWs. Because of this high volume, only low-quality educational programs are implemented, and monitoring and evaluation are not performed properly or become limited to completing forms. This low quality of the programs creates several problems. First of all, because of the unsolved problems, again, the ministry designs and announces more programs that exacerbate the problem; second, the poor quality of educational programs makes HE less and less important and creates a disadvantageous attitude to HE unit and the nature of HE. This disadvantageous attitude of managers also influences their decisions and makes HE less valuable and less important in their programs, and this defective cycle is constantly repeated in the system. Therefore, it seems that conducting studies and interventions at one level of the health system, regardless of the multifactoriality of the barriers and problems, will not yield the desired results. Therefore, it is recommended that ministry officials, university officials, and service providers first examine these root problems and defective circles during meetings, and with a comprehensive view, design and run interventions to mitigate and remove these barriers.

According to the results of this study, one of the barriers to HE is community barriers. Some studies[10] have referred to community-related factors and some studies[7,17,23,27] have referred to client problems, but have not addressed the context of the community. Clients do not live in a vacuum and from the perspective of sociologists, social phenomena are unintrinsic, general, and compulsory[28] that are imposed on individuals and cannot be changed only by intervening with one person. For example, marriage and pregnancy at an early age is one of the phenomena that CHWs have felt they have not succeeded in changing, despite much education given to mothers. Because even if a mother realizes that early marriage is undesirable for her daughter, the context of the society will impose it on her. Therefore, it is necessary to incorporate sociological and holistic perspectives into these issues.

The present study showed that one of the barriers of HE is the contextual barriers which are barriers that are the root causes of the barriers and problems at different levels. In various studies,[10,17,23] some of these factors are mentioned. If you take a deeper look at the issue of HE barriers, the question arises that first, why these barriers arose? And second, why aren't these barriers resolved? Moreover, they have even been added to day by day. It seems that one of the most fundamental root causes seems to be university related. If university graduates were capable of HE, first, they would not allow such barriers to arise and second, if arisen, or existence of these barriers and root and chronic causes, they could remove these barriers and problems. On the other hand, it seems that despite the presence of capable professors and specialists in HE and HP in universities, the health-care system has not been able to exploit this important potential, so it seems that, by linking the practical and theoretical sectors of HE in Iran, or by establishing links between academics experts and executives, an important step can be taken in removing barriers and problems and promoting the status of HE and ultimately people's health. In this regard, it seems that the principles, models, and theories and in general the complexities of HE science should be designed and developed by specialists in simple language to be provided for service providers. On the other hand, there is a need for planning and coordination to align and synchronize with media such as broadcasting to make the best use of this potential.

Strengths and weakness of the study

The present study is the first study that has addressed HE barriers at various levels (from the Ministry of Health to the health house) of health-care system in the country. In addition, it provides a comprehensive model of HE barriers and provides a deep comprehension from the subject.

The present study, like many qualitative studies, faced limitations, including the lack of participation of some CHWs in group discussion sessions. Therefore, it was attempted to eliminate this limitation by proper timing and coordination with CHWs. In addition, one participant did not agree to record the interview, so this person did not enter the study. Given the limitations of qualitative studies, including the limitations of the present study, the results should be generalized cautiously.

Suggestions to policymakers

On the basis of our results, we suggest a group of experts from different level of health system establish and, with a comprehensive approach, discuss the mentioned barriers and provide solutions to fully address the barriers to HE.

Suggestions for future studies

We recommend using HE models and/or theories for the study of behaviors related to barriers and designing evidence and theory-based intervention for solving the barriers.

Conclusion

The results of the present study show the multidimensionality, multilevelity, and entanglement of

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barriers and problems of HE at different levels (individual, interpersonal, organizational, and community) and different dimensions, so it seems that if only one level is mitigated or barriers are removed, the barriers and problems to HE will not be resolved. Therefore, to fully address the barriers to HE, a comprehensive approach should be taken into consideration, and the barriers should be removed at different levels and layers. Although the barriers are somewhat similar to those of other countries, they require specific approaches to Iranian conditions, contexts, and cultures, so compiling and implementing a comprehensive document on HE based on specific conditions, contexts, and cultures of Iran, with the participation of authorities, experts, and service providers, is suggested. This is in line with the Ottawa Charters' "reorienting health services."

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Conflicts of interest
There are no conflicts of interest.

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