A Social Accountable Model for Medical Education System in Iran: A Grounded-Theory

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Abstract

Social accountability has been increasingly discussed over the past three decades in various fields providing service to the community and has been expressed as a goal for various areas. In medical education system, like other social accountability areas, it is considered as one of the main objectives globally. The aim of this study was to seek a social accountability theory in the medical education system that is capable of identifying all the standards, norms, and conditions within the country related to the study subject and recognize their relationship. In this study, a total of eight experts in the field of social accountability in medical education system with executive or study experience were interviewed personally. After analysis of interviews, 379 codes, 59 secondary categories, 16 subcategories, and 9 main categories were obtained. The resulting data was collected and analyzed at three levels of open coding, axial coding, and selective coding in the form of grounded theory study of "Accountability model of medical education in Iran", which can be used in education system's policies and planning for social accountability, given that almost all effective components of social accountability in higher education health system with causal and facilitator associations were determined.

Keywords: SOCIAL ACCOUNTABILITY, COMMUNITY–ORIENTED MEDICINE, COMMUNITY MEDICINE, EDUCATION SYSTEM, GROUNDED THEORY

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Introduction

Studying various books and articles, it is observed that social accountability has been increasingly discussed over the past three decades in various fields providing service to the community and is considered a goal for various areas (1). In medical education system, like other areas of social accountability, it is considered as one of the main objectives globally. To confirm this issue, we can point to Global Consensus on Social Accountability for Medical Schools, provided by congregation of representatives of different countries in South Africa in 2010, which has been communicated to all medical schools in ten chapters (2). On the other hand, the significance of this issue is to the extent that the World Health Organization has entered into this and has provided definition of social accountability, which states that medical schools should detect the educational, research, and service delivery needs and priorities of the population under coverage and meet their needs (3, 4). But one of the most important areas in

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medical universities is education, which is of course necessary to take social accountability seriously in this area, as defined by the World Health Organization and the South African statement. Considering the research (in the literature), obviously, the existing models for social accountability in medical education system is very limited in the world and the available models are designed based on the target backgrounds, conditions, and community. Therefore, it seems necessary to identify backgrounds, conditions, and norms of the country and consider them in designing a theoretical model for this concept. Therefore, this study seeks a social accountability theory in medical education system that is capable of identifying all the standards, norms, and conditions within the country related to the study subject and recognize their relationship.

Research Background

In the Islamic Republic of Iran, given the integration of Medical Education system with the Health and Medical System in 1985, a special condition was formed, compared with other countries of the world, which may be considered a step towards social accountability, as separation of clinical and academic fields minimizes social accountability. In other words, the health system will not be responsible for the quality of service of providers that they have not trained and medical schools will also deliver their graduates to a separate and independent system (5). But merely integration of these two arenas is not equal to responsiveness of universities to the needs of community and because this integration has created a new organization that has never been available anywhere in the world and was a new experience, thus, it requires specific planning, separate from the education system of other countries. Therefore, the integrated system of Medical Education and the coordinating role of medical universities between health and medical education in Iran and its differences with other countries increase the importance of study in this field.

Grounded Theory in This Study

Although grounded theory methodology was established by Glazer and Strauss in 1960s, further statements by Glazer (1967;1978), Strauss and Corbin (1990; 1998; 2008), and Charms (2000; 2006) had great impacts on the development of the grounded theory, and it can be said that three independent schools have been created to accomplish grounded theory (6-9). In this study, according to the fact that ontology researchers believe in realism, which suggests that facts and knowledge exist outside the minds of people and people try to understand and uncover the facts, Charm's approach cannot be used in this study, as Charm's approach looks at the grounded theory from the perspective of ontological relativism and the supporters of this school believe in making facts inside people's minds. But another question to be answered before starting each study is the researcher's view on the epistemology of research? In this study, researchers believed that emptiness of the researcher's mind and simply relying on the obtained data cannot demonstrate that every aspect of the phenomenon has been studied. That is, previous studies by the researcher and extensive review of texts help data collection, analysis, and results be conducted correctly, collect and analyze the most possible and relevant data, and provide results based on the existing context. On the other hand, the interaction between the researcher and participants is very important for the significance of the data. Studying the first book to the last version of Strauss and Corbin approach in grounded theory, a growing trend is observed on the interaction between researchers and participants and the impact of researcher on making sense of the data. Therefore, with this epistemological approach, the researchers of this study believe in subjectivism, which is closer to Strauss approach (between Glaser and Strauss grounded theory schools). Therefore, the grounded theory approach in this study

is based on the Strauss and Corbin method.

Participants and Methods

Participants in this study were selected among the professors, senior and middle managers of the medical education system, considering the study objectives, and the limited information of the subjects related to the field of study. In the initial targeted sampling, a number of experts were selected and interviewed. Participation in the study was voluntary and the place and time of interview were scheduled based on the participants wish. The researchers warrant the confidentiality and all the identifier elements were eliminated from the documents. After each interview, the data was analyzed and encoded; during this process, theoretical sampling, as well as subsequent questions were required, which were determined after analyzing each subsequent interview. After analyzing the fifth interview, researchers found that the data was roughly saturated. In the next step, an interview was conducted with three others to validate the obtained data, which was confirmed by analyzing new data from the codes and categories obtained from the previous interviews, and confirmed that the data was saturated and no other information would be obtained.

Data Collection

One of the methods used to collect data is open interview. An interview with open–ended questions allows participants to fully describe their experiences on the subject. All interviews were conducted by one of the researchers. In this study, interviews were recorded during the study and immediately written down on paper completely. Interviews were performed in a quiet environment and at appropriate time and place, determined by the participants. During the interview, notes were also taken on the participants' nonverbal interactions and behaviors. Although the original data of the study were obtained from semi–structured interviews, memos were very helpful in data collection –during or after the interviews–, and in analysis. Memos are deep thoughts about events, usually written after leaving the scene or during data analysis (6).

Data Analysis

In the grounded theory, data analysis began simultaneous to data collection and continued until the theory or model completes. Meanwhile, during the whole study, analysis techniques using constant and theoretical comparison were used (7). The coding process for interviews is to show participants' feelings about their past experiences and how they behaved in the process of the study phenomenon. Coding is the first stage of data analysis, which guides the study from a number of special situations in an interview to interpretations with a high degree of abstraction (8). It should be noted that in the grounded theory, the researcher is not only searching for the experience of the participants, but all the data from the living and non–living experience, including knowledge and information about the studied phenomenon, its components, and the relationships between its components, which can be helpful in formulation of an appropriate and complete model or theory that completely introduces all aspects of the phenomenon process (7).

In the grounded theory, several types of coding processes are used to analyze data. These data analysis processes are directly related to the level of abstraction of the analyzed concept. Open, axial, and selective coding are fully related to the concept development at low, medium, and high levels. The open or initial coding process is for analyzing the concept at low levels, which technically the grounded theory power depend on this stage. When the researcher communicates between and within the categories during data analysis, the medium level of concept analysis is performed, named as axial coding by Strauss and Corbin. The final step of analysis that expresses the underlying theory and is a conceptual framework development at higher levels of thinking has been named as selective coding (9).

Results

In this study, eight experts in social accountability in medical education system with executive or study experience in this field were interviewed personally. After analysis of the interviews, 379 codes, 59 subsidiary categories, 16 subcategories, and 9 main categories were obtained. Further details will be provided on the main categories and subcategories.

Promoting Community Health

Almost all participants in this study pointed out promoting community health as the main purpose of medical education. Thus, the role of promoting community health as the ultimate goal of the medical education system is not concealed to anybody. Considering that the medical education system is part of the health system, it is necessary that other subsystems of the health system cooperate fully in order to achieve the common goal. The shared perspective and close cooperation between the main components of the health system, including the education system, service delivery system, and research system can be a precursor to achieve the ultimate goal of promoting community health (10).

Meeting Community Health Needs

The task of educational institutions is not just to train graduates with special qualifications in one field of study, but in addition to training graduates with professional qualifications, they must have the capability to address community health problems, and along with that, the educational institution itself should step towards identifying and meeting the community needs (11). In the health system, technically, human resources, financial resources, and policies, wholly, aim to identify and resolve health problems and needs of the community. To achieve this goal, according to the data obtained from a responsive medical education system, three main consequences will be obtained, each of which will directly result in elimination of the community needs, especially in the event of high interaction between these three consequences, and ultimately improve community health level. In table 1, part of subcategories related to the main category of "public health needs" are given.

Training Responsive Human Resources

In order to achieve the goal of social accountability in an organization and to meet

Table 1. The subcategories and subsidiary categories of the main category "meeting the community health needs"

Main class	The Subclasses	The subsidiary categories
Meet the community health needs	Production of community–oriented science	Production of science as a goal of education system
	Training responsive human resources	Graduating with the appropriate capabilities
		Graduating with community–oriented competencies
		Graduating with a community–oriented approach
		Training graduates appropriate with the community needs
		Training leaders to improve the community health
		Training multi–dimensional graduates
	Effective service delivery	Responding to customers' needs
		Social accountability against individual accountability
		Community trust in service delivery system
		Integration of service delivery system
		Health, satisfaction, and justice as the goal
		Reducing the cost of treatment
		Reducing the burden of disease
		Reducing patients' wandering

the health needs of the health system, it is essential to have human resource with each individual feeling responsive to the tasks and to the community. Certainly, without the involvement of health system members in the community to try to meet the needs of the community, we cannot expect the whole health system to succeed in this regard. The study participants noted several properties that the responsive education system graduates should have, so that a person with appropriate capabilities, community perspectives, and commitment to the community step towards meeting the health needs of community. One of the participants stated in this regard:

"Consider that the Medical Science education system is at the stage of creation of human resources; in fact, the debate is whether this created human resource is in line with the health system goals or not. Namely, if you ask me what a good medical science education system is, I would say in one word: a system that creates human resources that can play an effective role in the health system"

Another participant referred, in this regard:

"A system is effective that works good in the type of graduates, or the field of study, the quality and qualifications of graduates, and the number of regular graduates, a system that does not see the present; as the hunters say, if you want to shot a bird, you should shot ahead of it, which means that you have to look further, to the next five years. In the education system, it takes 10 years to have graduates, so you have to see what we need in ten years."

Production of Community–Oriented Science

Another obtained result to meet the needs of the community is production of community–oriented science. Generating knowledge is usually one of the tasks of educational institutions, including the medical education system, which is the result of research conducted in these institutions. But the education system, with the prospect and the concern of meeting the needs and problems of the community, should devote part of its research to the factors related to the community, and in particular the population under coverage, which will result in the production of community–oriented science. "In the field of medical sciences, there is not much disagreement that our main goal is service, and to provide service to the community; this service may be science production, which is for sure; if science had not advanced, we would have no antibiotics, or many surgeries. Thus, science production is also a service to the community."

Providing Effective Service

According to the results, perhaps one of the most important consequences of an education system that is responsive to the community is to provide good and effective service to that community. The medical education system in our country, which is integrated into service delivery system, can affect the community health in two ways; first and foremost, educate graduates who can provide good and effective services to the community; Secondly, during education, the education system, with the support of its faculty members, provides services to address the health problems and needs of the community. Participants of the present study pointed out that if the education system performs its duties, in terms of delivering responsive human resource to the community and has a good interaction with other areas of the health system, it can be presented in the community. For example, effective service provided will attract the community's trust in service delivery system that will result in promoting health, satisfaction, and justice in the community.

"The most important outcome is the creation of trust. The greatest problem that currently threatens the country's medical community is declined trust in the medical community. When you see something happening, it's because of lack of trust. The most important effect of responsiveness, which acts very quickly, is social accountability. The patient says that this person who's going to take care of me

did not come from the sky, or miles away; he does not see a distance between his own needs and those who care for him. The interventions he does for care, diagnosis, and treatment is what he needs. This is just what the community needs, a family."

Another result of effective service delivery that the participants referred to was reduced cost of treatment, reduced patient waiting, and reduced disease burden. For example, one of the topics presented is listed below.

"We expect to reduce the patient wandering in the first place, that is, the patient referred to the general practitioner and his needs recovered, he gives further required counseling, and treatment, and was referred, only if he needed. We expect to reduce the number of patients referred to several doctors, to reduce costs of treatment, number of chronic diseases and diseases that require self–care; we expect to reduce disease burden."

The Structure of Responsive Education System

Analysis of data obtained from the quotes of experts in the present study on the structure of the education system, responsive to the needs of the community, showed that participants pointed to issues such as structural and functional integration of the health system, the leading role of the education system, and that the education system should be beneath the health system; table 2 provides the main and subsidiary categories. Table 3 explains each subclass obtained.

In the Islamic Republic of Iran, it seems that the structure of the existing education system is in line with the structure that the participants of this study considered as the required structure for social accountability. That is, the health education system should be the subcategory of health system. Considering that in many countries the medical education system is independent of the health system, the existence of this structure in Iran can be very useful for social accountability. On the other hand, given that the service delivery and research system in Iran are part of the Medical university, and the university's presidency plays the senior managerial role in those fields, taking into account the quotes of the participants on the leading role of education system in the health system for social accountability, this property is also considered in the medical education system of Iran. Further issue that participants referred to, for the social accountability, was the integrated structure and function; with respect to the structural integration of medical education system with the service delivery and research systems in 1985 in Iran, an important step has been taken, at least in structural terms, towards social accountability. However,

Table 2. Subcategories and subsidiary categories of "involvement in the community."

Main class	The subsidiary category	Subcategory
Involvement in the community	Responsive Management	Capable management
		Sufficient resources
	Responsive faculty members, involved in the community	Capable faculty members
		Faculty members involved in the community
	Educational institution involved in the community	Role playing associated with health system
		Association of education system with community

Table 3. Subsidiary categories of "structure of an accountable education system."

The main category and subcategory	Subsidiary categories
The structure of an accountable education system	Structural integration in the health system
	The education system a component of health system
	Functional integration in the health system
	Educational leadership in the health system

according to participants, real integration has not been made in functional terms, yet.

The Education System as a Component of Health System

In each country, a number of main systems operate beside each other and associated with each other and the function of each affects the other. Each of these systems include a number of subsystems that operate in line with the objectives of the upstream system. One of the most important systems of each country is the health system and medical education system, providing human resources of the health system, which play a key role in this system. One of the participants has clearly mentioned:

"Medical education system operates as a subsystem of a larger system, ie. the health system."

The Leading Role of the Education System

One of the points that participants mentioned was that in the health system, comprised of education system, service delivery, and research systems, the leadership in the education system is one of the important and effective issues. According to the fact that Medical university is considered as an educational institution and the university president manages other parts of the university, ie. service and research, so it seems at the medical universities, a small sample of the Ministry of Health and Medical education, as the country's health system, the education system can play the leadership role by considering superior managerial position.

"As the senior president of medical university is the president of the medical university, he is also the president of health centers, medical centers, and hospitals; they are all managed under one leadership."

On the other hand, professors and faculty members, as the expert and brilliant population, in various aspects within the educational system, pave the way for the leadership of this system in the health system.

Integrated Structure

If all three areas of the health care that includes education, research, and service delivery, are placed in Iran in a common and integrated structure, similar to the medical universities with a joint management, certainly, it will be much easier to achieve the shared vision of social accountability.

"I think our integrated system is generally right; but, because of the time it takes from the university president or from the Minister, it can cause a bit of problems, nevertheless it gives our education system the means to keep the relationship with the environment and its advantages surplus its disadvantages."

Integrated Performance

It seems that in an education system, we cannot train people for job and responsiveness to the community needs, but during education, these people have no contact with the community and are merely trained in categories or medical centers. So, given that the move towards social accountability requires a series of objectives and policies, common to all three areas, a common and integrated cross–sectoral performance is necessary to achieve those objectives.

"In fact, if we want to see training here, the first role is to train human sources with research, because research is seen as a part of education here, and to design systems and related studies; with the help of these factors, we can have a strong system and in a system that cares to return its data to education, the education can use the data, where necessary, to play an effective role in health."

Community–Oriented Policy

One of the main and great functions of education system in Iran is macro policies and educational planning at the national level. Due to the concentration of medical universities and limitations for universities in decision–making and macro planning, these decisions and policies in Iran are done by the higher education in health as a part of the

Ministry of Health and Medical Education. In this regard, according to data obtained from this study, three issues, including assessment of the community needs, planning based on community, and student admissions are issues that higher education health system should give special attention to, in order to meet the community needs in policy–making. Table 4 gives subsidiary categories and related subcategories.

Assessment of the Community Needs

It seems that according to the obtained data, assessment of community need is the most important and fundamental measures that the educational system should consider, since assessment and identification of the needs and problems of the community has a direct impact on all current processes in the educational system. Therefore, it is imperative that the educational system has a comprehensive need assessment system, in order to use tools, techniques, and valid methods of assessment of the community needs and analyze all messages received from the community and identify the basic health problems and needs. One of the points that participants have referred to, in the context of community need assessment that seems to be very important, is assessment of the community needs to determine the educational objectives and content in various fields. One of the participants stated an example in this regard: "For example, in our country, tuberculosis, among infectious diseases, is a public problem or brucellosis is a major problem, but are not mentioned in textbooks, because the textbooks are American and these problems do not exist there and they are stated brief and simple; so, if our education system is correct, some parts should be added and some omitted. This means that our education should be more practical and different from those written in books."

Community–Oriented Planning

In each organization, policies and plans within that organization define the result of the organization's activities and efforts, and their direction. Similarly, in an education system, if a medical education system wants to meet the community needs, it should design and develop all its current programs on this purpose, in order to be able to meet the health needs of the community with its activities. As a participant pointed out, a university and, more generally, an educational system in Iran, should determine its own vision and general objectives.

"For example, the mission of a university is about community services or social services, or a university may see itself inside regional innovative system, like MIT, and does not serve the community and serves innovative economy."

Some other participants discussed it from another perspective and expressed that after determining the general objectives of the organization, this type of planning can advance the organization towards its goals. In other words, if the purpose of an education

Table 4. The subsidiary and subcategories of the main category "community–oriented policy–making"

Main class	Subcategories	The subsidiary categories
Community–oriented policy	Assessment of community needs	Feedback from upstream systems
		Identifying community–oriented factors
		Continuous assessment of community
	Community–oriented student admissions	Creating fields appropriate to the community needs
		The number of admissions in field appropriate with community needs
		Community–oriented student admission policy
	Community–oriented planning	Dynamic programming
		Common vision
		Community–oriented vision
		Community–oriented planning

system is social accountability, it cannot be obtained with any type of program and the planning and implementation of organization's programs should be based on identification of the community needs and policy–making to meet those needs and strict implementation of the programs in the community, as well as to evaluate the amount of impact on the community.

"I think three aspects should exist in this context; one is the right decision–making, which includes correct planning that is the first axis, if we consider exact goals; if this step is not performed correctly, the next steps cannot be executed correctly. So, if you don't know where you want to go, it does not matter, so the first axis, the right decisions, includes correct planning, called the right thing."

Student Admission

One of the most important processes in the education system is student admission. In an education system that aims to meet social accountability, student admission should be based on the visions and purposes of that education system, which means that for different medical fields only students should be admitted, who in addition to mental and physical abilities, concern for helping and serving the community.

"Community needs a doctor who is not very knowledgeable, but meets the community needs; such a person should be admitted. Admission says the same thing; it does not say I want a genius to go get the Nobel Prize of biology for me, I want a man who understands people's pain, wants to provide human steak care, and concerns about people."

Another issue that must be considered for student admission is to predict the future needs of the community to the field type and the number of student admissions in each field. The education system should consider the current and future population of different areas and predict diseases, and the risk factors in the next years, to have a comprehensive plan for student admission for several years.

"For example, in our ward, we have added a neonate intensive care unit (NICU) since two years ago, but we don't have NICU nurse. The country needs NICU and it should have been thought ten years ago that we need nurses. We are now in shortage. At that time, we should have trained nurses, but we trained midwives; now we have unemployed midwives and no nurses, while we need nurses. There is no accountability in this system."

Involvement in the Community

It seems that in medical universities, the main component of the medical education system, is the implementation of the established programs of the three main institutions, namely, management at all levels, faculty members, and the coordinated body of educational institutions. Considering the data obtained about social accountability, as mentioned earlier, one of the most important steps to be taken into consideration is the presence of capable and accountable managers, accountable community–involved faculty members, and educational institutions. Table 3 presents part of the categories and subsidiary categories on the main class involved in community.

Responsive Management

Participants' viewpoints were entirely based on the fact that one of the most important pillars of the medical education system to meet the community needs is management at all levels, and especially at the higher levels of the organization. Belief in social accountability by the manager and, at the same time, responsible and capable manager in the formulation and implementation of programs that leads the organization towards social accountability is very important. One of the participants said:

"The most important thing is management of this system, and having an appropriate and capable manager for the system, someone who knows his job well, organizes well, and provides the required (human) resources. If we have problem in management, even if the

components are complete, but he cannot set them together and meet the accountability relationships, then, we will have problem."

Faculty Members Who Are Responsive and Involved in the Community

Another principal of education system is faculty members. According to the results, for the educational institution to respond to the community needs, all faculty members of the organization should be accountable to the needs of community and should also enter the community and be involved within the community. Considering the fact that faculty members are directly involved in the institution's planning, as well as higher levels in educational system planning, the involvement of professors in the community will better identify needs and also more appropriate planning to meet those needs.

"It seems that our teachers are now combined with the hospitals; when they come out of the hospital, they seem to lose their identity or feel they have nothing to do outside the hospital. A teacher who thinks he has nothing to do outside the hospital, even if he trains a general practitioner in in–hospital standard conditions, the GP is not useful outside hospitals, which causes a gap. That teacher should get out of the hospital and the university and work with environments that the student will be in touch in future."

Institutions Involved in the Community

Another result of the study was involvement of medical universities in the community. In Iran, according to the integrated structure of medical universities, health networks, and health centers in urban and rural areas, even rural health centers, an appropriate background is provided for entering the education system and the body of medical universities in these centers.

"Now in the center I work, pediatric ward has nothing to do with schools in the area and problems of children in the area, while integration means that I consider myself sensitive to these issues; if health deputy has categorized staff to zones, for example, to the south–west area of Tehran, if you know that the schools' health has trouble there in providing the students' health, the manager of that area and the hospital should offer suggestions, but connections are completely cut."

Community–Oriented Education

All participants in this study acknowledged that the necessity for an accountable education system accountable to the community needs is that the education in this system should be community–oriented. According to the data obtained for this purpose, the curriculum should be based on the outcomes generally and the curriculum should be based on the competency for graduates to ultimately achieve the desired competencies and capabilities. At the same time, community–oriented education programs should be designed and developed and be implemented within the community and in real environments. In Table 5 subsidiary categories and subcategories of the community–oriented education are given.

Education in a Real Environment

The first step for community–oriented education is that medical universities use all resources in the community for education and

Table 5. The subsidiary and subcategories of "community–oriented education."

The main category and subcategory	Subsidiary categories
Community–oriented education	Education in a real environment
	Education within the community
	Community–oriented education
	Competency–based curriculum
	Outcome–based education

do not consider education just for classrooms and hospitals. In this regard, it is necessary that educational institutions get out of the university environment and teaching hospitals to implement education programs and provide their services in a real environment in different layers and provide sufficient education and experience in the form of community service for students. For this, in addition to real and authentic educational environment, educational methods, real and authentic community–oriented evaluation methods should be used (12–14). To confirm this, a participant gave an example of a real educational program, implemented in the country for many years, as a successful example of education in a real and community–oriented environment.

"We were successful in training health workers in the world, which was due to the fact that we provided the theoretical lessons over two years to people who had only five class education at that time and simultaneously a health center environment was simulated for them and each lesson taught was practically showed there; they had a room, called practice room, where they should have simulated what they should do at the health center. In the first phase of their education, in the second year, they had two or three days of theoretic education and two or three days in real environment of a health center."

Education Inside the Community

A medical education system accountable to the needs of the community involves various students from the very first study years in the community (15). The education system, according to the assessment of needs and priorities of public health in the population under coverage, designs the curriculum of various fields and to educate students, implements the developed curriculum in the context of the community, so that students get familiar with real experiences and apply these experiences in their future career; and people will also benefit from the services provided by them (16).

"Like that you have taught all the driving lessons to someone theoretically and have even shown him/her a photo of the car, but the person has never driven in the streets; he will never be a driver. The problem of our general practitioners and students is the same; regardless of the inappropriate place and the large number of students and small number of teachers, which I think would be effective."

Community–Oriented Education

Community–oriented education means that the educational objectives of the curriculum should be based on the needs and prioritized problems of the community and then, with respect to these goals, appropriate educational strategies should be designed based on community– related education. This means that despite the fact that educational programs should be implemented in the community and in real environments, as an earlier step, all goals, selected content, educational strategies and methods, and assessment methods should be fully associated with the community and should not be in line with other goals, such as system innovation. In this regard, the faculty members must use valid educational and evaluation methods to create real learning experiences in the community for students (12, 17).

"Curriculum means that when the student enters the system, needs to know how the class systems are, how are the resources, and all this will be the curriculum and it is based on those needs. If I have social accountability, and intend to increase public health, an environmental health student should have a suitable curriculum, and medicine (general and specialized) should be commensurate with that, etc."

Competency–Based Curriculum

According to the data of this study and the related literature review, it seems that if a curriculum is developed related to the community, it will in fact be competency–based, as well. So the first step in development of community–oriented

curriculum in an accountable education system is training qualified graduates. For this, based on the identified and prioritized needs and problems, first, the roles and competencies for each field should be determined and then the curriculum should be developed based on that competencies (2, 18).

"When I say community–oriented, it means that the content goals should be practically based on the community needs; we said the competency–based curriculum starts from need assessment, role definition, and task analysis, based on each competency and says what learning objectives are needed and is thus relevant. So, competency–based includes the community–oriented curriculum concept."

Outcome–Based Education

In addition to competency–based curriculum that should be developed based on competency, it seems that in a community–accountable education system, the whole educational philosophy must be based on the outcome. As if the education outcome is considered to overcome community health needs, all means and activities should be based on this, for the outcome of all components of the educational program be met in line with it. So it may be claimed that in order to meet the social accountability in the educational system, outcome–based education is required for the community–oriented education and in line with it.

"You say, my outcome is that, the other says my expected input is this, now you should keep these two; the community says I want a physician to be able to communicate, the education system says I train a graduate with its outcome to be able to communicate. If these match together, a more responsive physician will be trained."

Evaluation of the Education System

An effective evaluation system can guarantee the success and progress of institutions and various programs. In the educational system, as well, with any vision and mission, certainly an assessment and accreditation system is required to supervise the activities and the current processes. Now, in the field of social accountability, standards of evaluation and accreditation should be centered on social accountability for the educational institutions and programs move in this direction. Table 6 presents part of the subcategories and subsidiary categories related to the evaluation of the education system.

Accreditation of Programs and Institutions

A cross–institutional evaluation and accreditation system, as a quality assurance system, can determine the effectiveness of programs (19). Evaluation and accreditation of educational institutions, as well as programs, is very important. Performing evaluation and accreditation of educational system, with respect to criteria and standards that ensure social accountability in medical education system cause the educational institutions try to design and implement their educational programs in line with social accountability (20–22).

"One other point in the issue of accreditation,

Table 6. Subsidiary and subcategories of "Evaluation of the education system."

Main class	Subcategories	Subsidiary categories
Evaluation of the education system	Evaluation of the effect of program on the community	Getting feedback from health system data
		Evaluation of community programs
	Accreditation of the institution	Accreditation of the institution
		Evaluation of the institution
	Accreditation of programs	Accreditation of programs
		Evaluation of programs

I think, is an important point on the accountability of higher education. Why? Because quality is an important issue and you have no right to train with low quality, by any definition of quality. But first, you have no right to train with low quality, then higher education system would have no control over production processes in terms of quality, no matter what standards are, it is not responsive."

Assessing the Impact on Community

Although evaluation and accreditation of institutions and programs is absolutely essential and cannot be ignored, it seems that to ensure how much successful an education system has been in meeting the health needs and problems, it is necessary to measure the impact of education programs in the community (23, 24).

Obstacles

No doubt there are obstacles in each path that slows down any change in its progress. In order to change the medical education system towards meeting the community needs, there are obstacles that participants in the study have pointed out to. The obstacles are divided into two categories, described in the following briefly. In table 7 subcategories and subsidiary categories related to the main class of obstacles are given.

Concept–Related Factors

One of the important points that most participants pointed out is factors related to the concept of social accountability. Participants believed that there is no universal transparent and clear definition of social accountability concept in the education system and many people working in this system in different positions have no useful information in this context or there are different interpretation of the concept among people.

"Social accountable medical education is not only opening a clinic outside the city and take children there and lodge, the biggest risk of the social accountability is that they think we would open a clinic and take rheumatology specialist there for the student to go there and visit patients. Then, they say this worked, ok, this did not, ok."

Another point mentioned about the concept of accountability is lack of clarity of the concept of accountability, and lack of clarity of the duties of different people within the educational system to move towards social accountability.

"The main obstacle is still the concept of social accountability and that the university should have social accountability and that I, as a faculty member, head of the department, educational deputy, treatment staff, health staff, etc. what is my role to obtain that macro–goal. Unfortunately, this is not defined yet."

Human Factors

Another obstacle that some participants noted was factors related to human factors. One of the most important human factors is the discussion of resistance to change or lack of belief in accountability that were expressed in the quotes of participants.

"The main obstacle we have is human

Table 7. Subsidiary and subcategories of "obstacles"

Main class	Subcategories	Subsidiary categories
Obstacles	Factors related to the concept	The ambiguity of social accountability
		Unclear tasks in accountability
	Human Factors	Accountability of moves opposite to the current side
		Resistance to change
		Lack of sufficient time for faculty members to get involved in the community
		Lack of proper planning for faculty members
		Lack of belief in the concept of accountability

resources. We are not used to change. We have inertia against change. For this reason, we may not accept change or if the change is applied with pressure, we would perform it bad and say, see how bad it was, while you said it has a good outcome, the previous one was better. Well, when I don't believe in it, it would have no good results."

Social Accountability Model of Medical Education in Iran

The result of data collection and analysis was at three levels: open, axial, and selective coding using grounded theory "accountability model for medical education in Iran", which is provided in figure 1. Looking further into the model obtained, it was shown that, first, in the context of the community, there are series of ongoing needs in relation to public health and with regard to the fact that medical education system is a component of the health system, so to meet the needs, appropriate planning and interventions should be taken.

In the obtained model, conditions and measures necessary for social accountability in the medical education system was devised in three levels. At the highest level is the education system that includes educational institutions and education programs. At the second level is the educational institutions that are responsible to implement the education programs; in the event of moving towards social accountability, institution directors, faculty members, and the whole institution should be involved in the population under coverage and have a continued and effective presence inside the community. The third level is the educational programs, which are in direct association with training responsive human resources.

Research Limitations

One of the limitations of this study may be the few years of experiencing the concept of social accountability in medical education system; bearing in mind that this concept may develop in the future, it will become more comprehensive and increase relevant knowledge, therefore, the results may not cover all aspects of the phenomenon in the future and additional studies are needed.

As a reality in all studies, researchers' restrictions are a part of the study. No researcher, especially in qualitative research cannot be completely objective and his/her

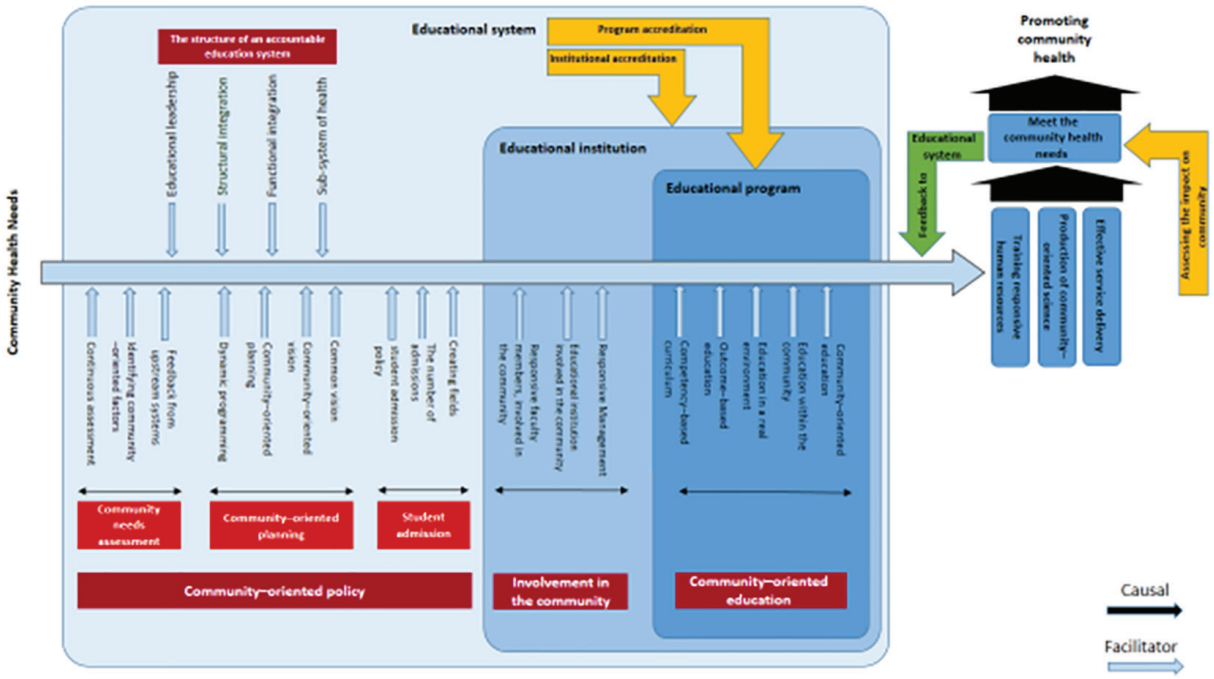

Figure 1. Model of Social Accountability for Medical education system in Iran

subjections and thoughts might influence the research process. To control this along the study, the researcher was continuously in contact with the university teacher, so that the personal thoughts of the researcher have minimum effect on the process of study design and implementation.

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Conflict of Interest

The author declares no conflict of interest.

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