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Community-engaged medical education is a way to develop health promoters: A comparative study

Shahram Yazdani, Peigham Heidarpoor[1]

Abstract:

BACKGROUND: Although the importance of health promotion and empowerment of the community has been recognized for many years, there are still many barriers to adopting health promotion in the world. One of the solutions is socially accountable medical education and community engagement.

OBJECTIVE: This study aimed to compare the medical programs of five medical schools that practiced community-engaged medical education to medical education in Iran.

MATERIALS AND METHODS: This comparative study has been performed in 2022 by the four-stage Bereday method, including description (the educational programs of the selected medical schools were examined), interpretation (a validated checklist was prepared according to community-based strategies), proximity (similar and different information was identified), and comparison (solutions were recommended to improve health promotion and community engagement in Iran's medical education program. The purposive sampling method was used to select five universities.

RESULTS: Although successful initiatives have been attempted to integrate public health promotion and community orientation into the Iranian curriculum, they do not appear to be sufficient in comparison to leading countries. The main distinction is that the community is actively engaged in all stages of curriculum design, implementation, and evaluation.

CONCLUSIONS: Although Iran's medical education program has a long way to go in terms of social accountability, by including more community-oriented initiatives into the curriculum, health needs of the community can be met and physician shortages in poor areas can be alleviated. It is recommended to implement modern teaching methods, to recruit diverse faculty and community members, and to increase the community placement in medical education.

Keywords:

Education, health promotion, medical, social responsibility

Department of Medical Education, Virtual School of Medical Education and Management, Shahid Beheshti University of Medical Sciences, Tehran, Iran, [1]Department of Community-Based Health Education, Virtual School of Medical Education and Management, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Address for correspondence:
Dr. Peigham Heidarpoor, Assistant Professor, Department of Community-Based Health Education, Virtual School of Medical Education and Management, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
E-mail: peigham.heidarpoor@yahoo.com

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Introduction

Following the Ottawa Conference, the World Conference on Medical Education in Edinburgh declared that medical education should produce physicians committed to health promotion of all people.[1] Although the importance of health promotion and empowerment of the community has been recognized for many years, physicians continue to lack sufficient knowledge in this regard.[2-4] Three types of community-related medical education (community-oriented, community-based, and community-engaged) have been mentioned in the past half century. Community-engaged education is the newest type. This educational model is consistent with the social accountable model of the World Health Organization.[5,6] Although socially accountable medical education can lead to important educational outcomes, the ultimate goal of socially accountable medical education is to promote community health.[7] Socially accountable medical education seeks to align medical education with the health care needs of the

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community. The specific implications and activities of this policy in medical schools include the development of community-changing graduates, the implementation of community education programs, and the evaluation of these programs by community health participants.[8] The move toward social accountability in education and community health promotion in Iran has begun, but there are still many shortcomings in this direction.[9] Numerous articles have proposed several solutions in this regard, but a small number of specific and in-depth studies have been conducted in the general medicine curriculum in Iran in order to develop accountability in education.[10-12] In addition, health education interventions based on theory[13] have proven effectiveness in reducing the burden of various diseases, such as cardiovascular disease, which reveals the importance of health promotion education and active community involvement and accountable medical education. As a result, because of this knowledge gap, this study aimed to compare the educational programs of medical schools in different continents that have implemented community-engaged medical education to medical education in Iran, examine the shortcomings of the current medical curriculum, and provide strategies to improve social accountability and health promotion.

Material and Methods

This comparative study was performed by using the four-stage Bereday model, including description, interpretation, proximity, and comparison.[14] At the description stage, the educational programs of the selected medical schools were examined, and relevant information was achieved by reviewing the curricula available on the websites of these schools and searching related articles in various databases. At the stage interpretation, a checklist was prepared according to Harden-recommended components of an educational program including curriculum (objectives, educational content, teaching method, and student evaluation), student, professors, educational context, and curriculum management. The educational programs of medical schools were compared, which take into account all the factors affecting a curriculum.[15] A panel of experts confirmed the checklist validity, and two researchers independently extracted and interpreted the information of each faculty. At the proximity stage, similar and different information was identified in order to facilitate the fourth stage (comparison). Finally, solutions were recommended to improve health promotion and community engagement in Iran's medical education program. The study population is the Northern Ontario School of Medicine in Canada, the Flinders Medical School in Australia, Universiti Malaysia Sabah, the Manila Central University and the Ateneo de Zamboanga University in the Philippines, and Gezira University in Sudan. The schools indicated above are internationally known for their community-engaged medical education. However, the Gezira University in Sudan has used community-based education, but because this university has achieved 75% of social accountability and has been located in a country known for its long history of community education, it was chosen as the representative of the African medical school.[16] Because of the small number of universities in the world that provide community-engaged medical education and the fact that the two colleges listed in the Philippines have distinct curriculum structures, both were included in the study. On the other hand, because of the interchangeable use of different terms of community-related education in the articles, the current study considered the most community-related education for comparison. The exclusion criterion in this study was the curricula of schools other than the medical schools. At the Manila Medical School, the training of health professionals (midwives, nurses, and doctors) has been viewed as a ladder, with midwifery, nursing, and medical education being interwoven and the person who becomes a doctor being a midwifery and nursing graduate.[17] Ateneo de Zamboanga University was established in the Philippines in 1994, where students can complete general health and medicine courses in an additional year. It is the only university in the Philippines to present a general medicine course based on the philosophy of problem-based learning. These schools are members of the Health Equity Learning Network, which was formed as the result of an association of medical schools around the world and aims to move medical education toward social accountability and to fulfill the community needs.[18] It is worth noting that the European faculties, including those in Belgium, were excluded from the study because of a lack of English-language access to their curricula. The research was approved by the Ethics Committee of Shahid beheshti University of Medical Sciences (IR.SBMU.SME.REC.1399.063).

Results

Following an examination of the educational programs presented in the websites and related articles, descriptions and interpretations as well as comparisons were made based on the checklist items. Tables 1–3 detail their similarities and differences.

According to Table 1, social accountability was explicitly mentioned in the goals of Canadian universities, two colleges in the Philippines, but was mentioned implicitly in the Malaysian and Sudanese Universities, although community-related education and social accountability were not mentioned in the goals of Iran's educational program. Practical themes related to the community

Table 1: Comparison of educational goals and content in selected medical schools

	Educational goals	Content
The northern Ontario, Canada	Social accountability in education and research and justice in health, active and strong engagement of communities	Content was based on the themes of rural and northern health, Personal and Professional Aspects of Medical Practice, Social and Population Health, Foundations of Medicine, Introduction to Clinical Medicine, Medical Career (the path of future medicine for social accountability).
Flinders, Australia	Providing an international educational, innovative, patient-centered, community-based, and accurate suitable education for senior medical students in the rural area	In the 4-year course, different basic and clinical sciences are integrated. Community and health is a course that is addressed in the third year, which also includes educational and research activities.
Malaysia	Enabling students in efficient management of patients, engaging actively in community health programs, practicing medicine considering ethical, humane, cost-effectiveness principles, engaging with teamwork, learning from experiences and adapting to changes as a way to improve professional performance	A variety of community-engaged programs was provided for students throughout the course. The difference between this program and other programs is that it is family-oriented and not patient-centered and has a bio-psychosocial, spiritual attitude toward the family and community, which is clearly seen in the content of the lessons.
The Philippines (Manila)	The mission of social accountability to help solve the health problems of the local area and provide services to the poorest areas	Theoretical and practical topics are presented in the form of credits, including personal health management, family health management, and community health management and health for all.
The Philippines (Ateneo de Zamboanga)	Fully social accountable, training the population and meeting the needs of the health system, its curriculum is based on competence and problem solving and sensitive to cultural and social issues.	Content is trained based on the needs of the community throughout the course in a spiral form based on the problems of the community and population and the increase of professional skills in medicine.
Sudan	Understanding community-oriented philosophy and its problems, acquiring critical thinking and problem-solving skills, understanding teamwork skills, familiarizing with the concept of integration, conducting research based on community needs and engagement in community development as a facilitator.	Theoretical and practical contents are in accordance with the needs of community and social views affecting infectious and non-communicable diseases, communications, and the impact of different customs, cultures, and ethnicities on health from the beginning to end of the course.
Iran	Observing professional ethics, taking care of the health of the covered population, and treating the patients in accordance with the service standards, managing information and lifelong learning	Theoretical content is in the form of community medicine and health courses during the basic sciences and 2 months of internships in the community and family medicine

health needs were integrated into the curriculum in all faculties from the beginning. In Iran, the first years focus on health promotion and community health in theory, whereas community orientation is discussed shortly in practice.

The University of Northern Ontario is the first medical school in the world to offer longitudinal integrated clerkship via community-oriented clerkship. Students visit patients in their families during a series of rotating blocks in this course. Students follow patients who are visited by other professionals to gain an understanding of continuous care.[19] All faculties use a variety of educational methods to accomplish educational goals. In most of these universities, longitudinal integration and problem-based education are the predominant teaching methods and educational strategies, which are recommended for community-based education.[20,21] The prominent feature of the student evaluation method is community participation in the evaluation process.

The community has a significant role in different components of the educational program and curriculum management and actively engages in most of the colleges. Educational contexts are out of hospital for community education as well as in rural and remote areas, which take a lot of time.

Discussion

By comparing the study indices between other countries and Iran, it is clear that medical education in Iran is much different from that in other countries. The medical education program in Iran still has a long way to go before it achieves social accountability. Universities in other countries exist to serve the community and to address its requirements. This purpose seems to be a driving force for university leaders and authorities, faculty members and students, and even community members to focus on health prevention and promotion, the population health and health equity, and social and biomedical dimensions. The leadership of universities must place a premium on this issue.[22] Although patient care has been mentioned in the Iranian curriculum, the community needs have not addressed in its goals. The curriculum simply recommended that students examine the community's needs. In comparing the content of the curriculum throughout the course, the importance of theoretical and especially applied content in relation to the community needs is highlighted. In Iran, the

Table 2: Comparison of educational strategy, teaching methods, and student evaluation methods in selected medical schools

	Educational strategies and teaching methods	Student evaluation methods in the community
The northern Ontario, Canada	During an 8-month community-based clerkship (longitudinally integrated), each third-year student is present in one of 15 locations and learns clinical medicine from a community-based and family physician perspective.	Different methods of student evaluation include multiple-choice questions and OSCE, in which the local community plays an important role in providing standard patients. Project and observation by preceptors are also evaluation methods.
Flinders, Australia	Patient-centered and longitudinal education, problem-based education, weekly lecture and videoconferencing, and immersion in the community	These tests included multiple-choice tests, clinical scenarios, and short-answer tests and review of student progress by the program coordinator. Community organizations do not evaluate students but give them general feedback. Written feedback about the organization is also received from students.
Malaysia	The program creates a longitudinal experience in which students observe the temporal relationship between life events, family dynamics, health-related behaviors, and illness.	There was no direct method for student evaluation in the texts of related articles. However, a group project in the community that leads to the identification of community needs is probably one of the important methods of student evaluation.
The Philippines (Manila)	At Manila Central University, competency- and community-oriented education is provided. The focus is on service delivery, relationship with patients, community design, organization and development, health education, training skills, health service management, and research.	Various evaluation methods include multiple choice questions, short answer questions, OSCE, project reporting, and research.
The Philippines (Ateneo de Zamboanga)	The entire 4-year program is based on problem-solving training in small groups of eight people. All topics are integrated in a spiral curriculum (problem, professional skill, and population). Competence- and community-oriented education is provided at the University of Manila	-
Sudan	Student-centered, integration, and community-based strategies have been used. Major teaching methods are lectures, but problem-based methods are also being used. Visiting the village, basic epidemiological research, reporting, teamwork, seminars, and discussions are common educational methods.	Various methods include short descriptive questions, multiple choice questions, peer evaluation, monitoring checklists, and community feedback.
Iran	Community education is individual study and group discussion and reporting. Considering the expected abilities of students, teacher-student-centered training strategies, community-oriented education, subject-based education, out-patient training, hospital education, problem-based education, and professional task-based education are recommended.	Individual and group assignments, multiple choice test, descriptive test, reporting, OSCE, and logbook

community medicine credits during years of basic sciences and the clinical period include the socio-economic determinants of health. Curricular content in other countries may be more practical because community engagement is performed in the early years of the program and students spend more time in the community, whereas in Iran, no time is spent in the community other than clinical years. There are differences in health promotion training among different medical schools. In general, two approaches to health promotion training were advocated. The first is opportunistic education of health promotion while teaching other subjects. The other approach was to use a spiral curriculum in medical education. Health promotion was integrated into the content of other topics. The second challenge is how to teach health promotion throughout the medical course. Nowadays, health promotion training is recommended for the entire period of medical education from the beginning to the end. Therefore, each student at least takes care of one real patient as health education intervention. Therefore, the presence of a health promotion specialist will be useful for educating medical students.[1] In community health education, the community involves in education and the personal educational goals of the students are met. In addition to medicine, students learn the role of leadership and social advocacy in health policy. One advantage of health promotion education in the Northern Ontario, Canada, is that socio-economic factors affecting health are taught in the form of exposure to real patients that reduce the risk of setting less priority on these areas. Therefore, students involve the community in early years, and the community has played a role in their education.[23] As short training courses in the medical education program were criticized, some colleges used the longitudinal method in their courses, especially in rural education. The effectiveness of this method is related to the continuity of patient care, the quality of participation, increased instructor supervision, patient-centered perception, and the importance of family dynamics and

Table 3: Comparison of instructors, students, educational setting, and program management in selected schools

	Instructors	Students	Educational setting	Program management
The northern Ontario, Canada	Many professionals who work in community medicine and other fields help with this training. The clerkship course is held with the full engagement of the host community. People from all over the community are consulted when the educational program is being developed, and workshops are held at different periods. On the other hand, standardized patients are also used in education.	Student team and group education in the community	Urban, rural, and remote locations	Community members engage actively in the student admission process, standardized patients, and students' sense of comfort in the community and encourage them to understand the social factors affecting health in the local area. The faculty and the stakeholders make decision on the curriculum.
Flinders, Australia	The village general practitioners acted as supervisors for the students. Community perceptors who voluntarily play a role in identifying educational locations and briefing students the university. Committees in the community that oversee the local program for the university.	Student team (2-8 individuals in different programs)	Remote places and villages in primary care centers, community health centers, and community contexts such as schools and community agencies	Community agencies engaged in the initial design of 100 participatory programs and acted as community preceptors. Many organizations also acted as sponsors of the program. In order for communities to be actively engaged in the university, its implementation and evaluation play an important role. Information is exchanged in forms of quarterlies, websites, and forums, regular meetings with consultants of the organization, students and faculty members. By creating a network in the above ways, financial resources can also be attracted through investors.
Malaysia	The local community actively engages in hosting and teaching students. Students conduct interventions under the supervision of faculty supervisors.	Student team	Different rural places, individuals' houses, a clinic in the community known as the rural medical education center, governmental and non-governmental organizations.	The local community actively engages in hosting and teaching students. Communication is inter-dependent, from which both students and the community benefit. In addition to providing an interesting individual case, the community also actively participates in education, research, and development of the community.
The Philippines (Manila)	Preceptors experience in different fields so that professionals in different fields in the community are involved in education. On the other hand, local health officials act as preceptors and nurses; mid-wives and community members act as student supervisors.	Student team	Rural and deprived community	Students at the University of Manila are selected from individuals with a low socio-economic status and from rural and remote communities. The target community was involved in the selection of these students, and they were awarded a scholarship to provide services in the target community while completing their education. Community, on the other hand, provided a guarantee for them to complete their education. The main criterion for selecting students is the commitment to serve the community.
The Philippines (Ateneo de Zamboanga)	Faculty members and community observers	Student team	Rural and deprived community	At both universities, various participants as well as students are involved in the design, implementation, and evaluation of health and other community programs.
Sudan	The program is observed by the community and Family Medicine Department. Community leaders are involved in every step of the program, from student accommodation to project design and implementation and evaluation and presentation.	Student team (15-20 students)	Rural community	Community leaders are involved in every step of the program, from student accommodation to project design and implementation, evaluation, and presentation.
Iran	People in the community are not involved in teaching. Community medicine faculties and residents are involved in teaching students.	Student team	70% in urban areas and 20% in rural ones. Residence in villages and visit	Community leaders of various organizations in the community have no role in teaching students, and they only provide an educational space.

Contd...

Table 3: Contd...

Instructors	Students	Educational setting	Program management
In health centers, the center's physician and health staff passively teach students.		of nursing homes for older people, unattended children, and prisons are recommended but not mandatory	

social contexts. This method reinforces community engagement and learning through experience and problem solving.[20] In Iran, this teaching method is often encouraged in the curriculum but not in areas such as health promotion and community-related education. At Ateneo de Zamboanga University, problem-solving education and the time spent with the patient are considered in the classroom, the clinic, and the community.[24] Community-engaged medical education makes use of different professionals in different fields of medicine and basic sciences as well as community members such as general practitioners and other health care providers working in various centers and organizations. The community-oriented strategy uses student groups in educational activities to encourage teamwork, including identifying problems in the community, planning to address them, and intervening effectively.[25,26] In comparing educational contexts, the community-oriented strategy has suggested use of urban, rural, and deprived areas; the community and its organizations; and even the patient's home. This perspective is in line with out-of-hospital education. Although deprived and rural areas are mandatory contexts for education in this study, they are not mandatory in Iran, and if they are, the length is short (maximum 2 weeks during internships). In universities that practice community-engaged education, the community engages in all stages of education from setting educational goals to determining places and resources for community education, active participation in interventions, and providing feedback to students. Even in the admission process, community members are active in these universities, introducing indigenous students in disadvantaged areas of the same region on condition that they return after graduation.[17] At the Flinders University in Australia, a committee consisting of a chairperson, a community coordinator, and a general practitioner selected the students. On the other hand, a community-engaged education program is elective. According to the selection of the committee, some students are separated from the rest of the class and continue their education in the village.[27] Community-engaged education creates a win–win relationship between the university and the community. Therefore, students collect qualitative and quantitative data, analyze the community, and report on the community development. On the other hand, community organizations gain a good reputation in the community because of academy participation.[5] This engagement will require extensive strategies at universities, leaders' commitment to participation, structures and policy changes that encourage innovative participation, and community-engaged research. Certain universities are opposed to community engagement and believe that it should be limited to public health and charity care. To overcome this obstacle, health promotion at the individual and national levels is necessary. The curriculum management in universities that practice community-engaged education considers internal and external stakeholders, encourages faculty members to conduct research in the community, and provides infrastructure. This commitment will ultimately result in the development of health human resources capable of serving the entire population as well as creative research to promote community health.[23] As all countries mentioned in this study were successful in returning doctors to deprived areas and the lack of specialized health personnel remains a major problem,[5] one way for resolving the human resource shortage in deprived areas is community-engaged medical education. There is a wide range of community-related medical education in the world, with approximately 1% of medical schools providing socially accountable medical education, according to Boelen.[28] Faculty members who believed that this program had a great impact on students, families, and the community evaluated the effectiveness of this program in Malaysia. Although this program was developed based on the needs of rural people, because of the migration of villagers to cities and embrace of metropolitan culture, it can be implemented in cities.[29] One of the limitations of this study is the differences in the implementation of community-related medical education in different Iranian medical schools. It is suggested that the status of different faculties be examined separately in future studies. On the other hand, because of the interchangeable use of different terms of community-related education in the articles, this study considered the most community-related education for comparison. In the selection of universities other than Malaysia, the latest articles have been used; however, there is a possibility of their development or deterioration of their education so far. The latest information from the University of Malaysia dates back to 2013 but was included in this study because of the comprehensive

description of the undergraduate medical curriculum. The strength and novelty of this study is that community-engaged medical education in Iran has received less attention than other types of community-related medical education and the recommended points can clear the way for educational policy makers to health promotion of all people with active involvement of the community.

Conclusion

Although good efforts have been made to change the modern medical education program in Iran, it remains far behind top universities. According to the study results, some recommendations for modifying Iran's general medicine curriculum are made. Considering social accountability in the mission and main goals of the curriculum; creating a multi-specialized curriculum committee to implement the program and change the curriculum with the presence of participants from the community; building a culture of social accountability at the national and university levels; coordinating with primary health care centers affiliated to the university and communication with non-governmental organizations for community education; training faculty members of different basic and clinical fields, family physicians, and general practitioners and staff of primary health care centers in order to teach community-related education to students; the active presence of health promotion professionals in the multi-disciplinary team of community-related education to prepare behavioral change interventions in the community; engaging in the community so that at least 20% of the education is provided in the primary health care centers and community; trying to implement the integrated longitudinal teaching method and problem-based learning in the community; creating selected credits for community-related education; setting a local quota for admitting students from deprived areas with the condition of returning to the same area; and establishing faculty promotion advantages for designing and implementing community-engaged research are some of them.

Given that the effects of community orientation can be seen in Iranian medical education, development of community-engaged medical education is necessary in order to maximize social accountability.

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Conflicts of interest

There are no conflicts of interest.

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