

Interprofessional education challenges in medical education of Iran

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Abstract

Background Interprofessional education is one of the most important educational methods for developing team work encounter with many challenges, especially in developing countries. The purpose of this study was to identify the important challenges of Interprofessional education in Iran's medical educational system. Methodology The qualitative content analysis was used to explain the perception and experience of 15 professors and experts regarding the challenges of Interprofessional education with semi structured interviews. The interviews were analyzed with Graneheim and Lundman qualitative approach in the MAXQDA software V.12 interviews were completed. Findings According to the participants, the important challenges to designing and implementation of Interprofessional education was: 1) educational challenges, 2) structural challenges and 3) cultural challenges. Conclusion Because of the importance of Interprofessional education to enhancing medical education, policymakers need to understand the importance of IPE and address the barriers and challenges they face. Also the Structures must be created and attitudes change.

Background

The role of organizations and higher education institutions in transferring education from an single profession approach to a multidisciplinary approach in health education is undeniable (1). The interest in Interprofessional education (IPE) has increased significantly over the past few decades (2). At the globally level, over three decades, health policymakers have identified the key role of IPE in improving the health care system and its implications (3). Interprofessional education as one of the new, efficient and effective approaches to improving the quality of community health services and adapting with the wide changes in the world, has attracted a lot of attention on the international level and its positive consequences in various areas of health care has been confirmed (4). In recent years, professional collaboration has gained popularity as a desirable approach to provide care in the health care system (5). Effective participative care between different professions of health care is an innovative strategy to improve the quality of actions and a key factor in successful implementation of organizational changes in clinical environments (6). To better equip future professions with collaborative knowledge and care approaches, appropriate training methods should be adopted (7). Consensus suggests that Interprofessional education is necessary to break the disciplinary silos and train specialists ready for teamwork (8). Interprofessional education develops the students' academic achievement beyond the traditional curriculum. As a result, the students' understanding of different fields of health will increase the quality of patient care. In addition to a better understanding of the quality of patient care, Interprofessional education enhances respect and positive attitude among team members, which will improve the patient outcomes (9). Through Interprofessional education, students and physicians can develop their competencies in knowledge, attitude, skills, and behavior, which enable them to participate collaboratively in patient care (10). Evidence suggests that Interprofessional education can help break the stereotypical views that professions have toward one another, and can lead to increased understanding of the roles and responsibilities, weaknesses, and strengths of other professions (11).

Preparing and developing an IPE curriculum can be challenging (7). Palata et al. described the most important barriers to implementing Interprofessional education as financial constraints, lack of educational programs, and assessment of student learning (12). Rafter et al. mentioned similar problems, along with lack of evidence to demonstrate the effectiveness of Interprofessional education, lack of support from faculty members and managers, poor communication between colleges, and poor understanding of Interprofessional education (13). Lawlis and et al. lack of skills and personal commitment have been considered as obstacles of IPE (1). A few Interprofessional education programs are described for integration into the mainstream professional programs, and those that are available are different due to the need for incorporating local programs into health and social care programs (14). Not only medical education system of Iran has no planned Interprofessional education course for students, but also unplanned shared learning courses does not have criteria's of IPE. One of the main causes might be the lack of familiarity with IPE and recognition of the challenges and opportunities of Interprofessional education. Qualitative content analysis was conducted to explain the perception and experience of professors and experts regarding the challenges of Interprofessional education. Qualitative content analysis is a research approach whose purpose is to provide new insight, enhance the researcher's perception of the phenomena, and identify operational strategies. This research methodology allows researchers to interpret the originality and truth of the data mentally, but in a scientific way (15). So, this study was conducted to collect and analyze the experiences and views of experts involved in Interprofessional education in Iran's medical educational system to identify the important challenges of Interprofessional education with qualitative content analysis method.

Methodology

Sampling & participants

Purposive sampling was performed to select participants. In the Purposive sampling, the researcher is looking for those who have a rich experience of the phenomena examined as well as their ability and willingness to express it (16). Because the number of participants in qualitative studies is not clear, sampling continued until data saturation was achieved so that continuing the interviews produced no new content, subject, or component. In other words, the final interviews only confirmed the findings of the previous collection (24). The number of the participants increased using the snowball method until saturation was achieved. The research community comprised professors and experts of the field of Interprofessional education. To conduct research, 15 professors (5 males, 10 females) involved in this field. The participants were experts and key informants in the field of Interprofessional education based on research and educational activities and interested in participation in the process of interviewing.

Data collection

Semi-structured interviews were used for data collection. In order to conduct each interview, the participant was contacted first and after obtaining his/her oral consent, the time and place of the interview were determined according to the participant's schedule. Because it was possible that the

participant was not prepared for the interview, the letter outlined the general framework of the topics the researcher sought to investigate. After determining the time of the interview, informed consent was obtained from the participant and a brief explanation was presented about the research and its goals. The interview initially began with open and public questions and then continued with enlightening and in-depth questions. Interviews began with simple and general questions and continued with specific questions. During the interview and based on the respondent's answers, open questions were asked to clarify details. The duration of the interview varied according to the willingness of the participants to continue the interview, their fatigue, and data adequacy. The duration of the interviews lasted from 39 to 72 minutes, with an average of about 56 minutes. Although the main data were derived from semi-structured interviews, observations, filed notes, memos, and reminders were also used alongside the interviews. Observation notes showed what happened during an interview. Filed notes included observed interactions reported in the field and showed analytical insights when collecting data. Reminders also reflected deep thoughts about the events, and were often written after leaving the field and analyzing the data (17). Although these data were not all added to the aggregate data collected from the interviews, they helped to manage and formulate further questions and better understand the relationships between the issues, and thus assisted in data collection and analysis. In this research, we tried to maximize the diversity of the participants' selection based on research and educational activities and fields.

Data analysis

To analyze the data, interviews were summarized immediately (summaries included the interviewer's perception of the most important ideas presented in the interview) and transcribed. The interviews were then entered in the MAXQDA software version 12 and analyzed. To analyze the content of the interviews, we used the Graneheim and Lundman qualitative approach (18) as follows:

- 1) The researcher wrote the interviews and studied those several times in order to obtain a complete understanding of them.
- 2) All interviews were considered as a unit of analysis. A unit of analysis is the notes that are to be analyzed and encoded.
- 3) Paragraphs, sentences, or words were considered as semantic units. Semantic units are a set of words and sentences that are interlinked in terms of content and are summed up and aligned with each other according to their provisions and content.
- 4) Then, semantic units were named by codes, according to their latent meaning, to the level of abstraction and conceptualization.
- 5) The codes were compared with each other in terms of similarity and differences, and classified under abstract categories with a specific label.
- 6) Finally, by comparing the categories with each other and thorough and deep reflection on them, the implicit content of the data was introduced within the themes of the study.

Trustworthiness

For accuracy and robustness of the study, the proposed criteria of Guba and Lincoln were applied (18). The researcher enhanced the credibility of the data through long-term engagement and interaction with participants, collecting valid information and validating the acquired information. In order to increase the dependability of the data, measures such as stepwise data collection and analysis and using the views of supervisors and counselors were employed. In order to increase confirm ability, the faculty members' complementary ideas were used. Data transferability was assured by studying and providing a rich description of the research report in order to evaluate the applicability of the research in other fields. Quotes from participants were presented as explained. Since the data collection tool was interviews, this research was not as free from error as other qualitative research, as thoughts and opinions of the interviewer could affect the subject of the research and the process of data collection. Bracketing of the researcher's ideas done in the process of data collection and analysis.

Ethical consideration

After obtaining an introduction letter from the Research Deputy of Shahid Beheshti University of Medical Sciences, the researcher introduced the research team to the participants and explained the goals of the study. First, informed consent was obtained from all participants. All participants were assured that their responses remained confidential to the researcher to decrease the respondents' biases. Interviews were recorded after the participants' permission and transcribed with a code determined by the participants. The researcher assured them of the anonymity and confidentiality of the data.

Results

There were 15 participants (10 Female and 5 Male) in the study and 15 interviews were completed. There were 4 participants in medicine, 6 participants in nursing and 5 participants in medical education field. The position of 10 participants was Faculty member and 5 participants was Manager.

Participants stated that development and implementation of Interprofessional education in medical education of the country is associated with many challenges that must be overcome before the curriculum of Interprofessional education is designed. According to the participants, these challenges could be categorized in three categories: 1) educational challenges, 2) structural challenges and 3) cultural challenges. (Table 1).

Educational challenges of IPE

Participants stated that educational challenges were one of the main challenges. Almost all faculty members described incapability of teachers as one of the major educational challenges. One of the professors said,

"Although everyone thinks they know, when you ask them in practice, they do not know anything. We changed four settings for IPE at the University of Tehran, where no one had heard anything about IPE."

“Teachers are not familiar with IPE. Faculty members do not know much about new educational approaches.”

Another challenge of IPE, from the view point of professors and experts, was weakness in current education:

“I do not say that our clinical education is now ineffective or not Interprofessional, but we do not have planned IPE in the clinical setting in general.”

Lack of innovation and adherence to traditional education was another challenge in IPE:

“We do not seek innovation in our training and prefer existing traditional education. Each discipline work alone and does not work with other disciplines. Students are trained based on individual approaches.”

According to some participants, rigid, non-flexible, and single-discipline curricula were one of the most important training challenges for IPE and were an important barrier to integrating IPE in the educational curriculum:

“The current curriculum is not suitable for integration of IPE. The common points should be taken into account to supplement or complement the current curriculum.”

Structural challenges of IPE

From the viewpoint of the participants, proper structures were one of the most important factors affecting the design and implementation of IPE. According to the participants, barriers such as centralization, hierarchy of power, and poor educational infrastructures created obstacles in the implementation of these programs:

“Our universities are struggling with problems such as centralization, hierarchy of power and unique structure for which IPE can be considered a solution. It is very difficult to implement such training programs in the hierarchical arenas of Iran.”

One of the participants said that the development or improvement of the required infrastructures was a first step in implementation of IPE:

“Education, which is one of the most important pillars of the country's progress, cannot bear fruit without an appropriate context, and in my opinion, in the first step, we need to provide a suitable platform for this particular type of education.”

One of faculty members said,

“The existing structures must change for IPE. It is not possible to do such work in the existing environment, because it is not attractive.”

Interprofessional education without the support of various organizations involved in education is very difficult and almost ineffective:

“The support of various organizations is crucial for implementation of IPE. In community-oriented education, different students stayed in rural centers where sometimes nursing, medical, and in some provinces pharmaceutical students lived together.”

Participants stated that appropriate designing and development of IPE initiatives in the country's educational system required appropriate educational environments:

“IPE cannot be translated into existing areas and environments, and new patient-centered fields should be created.”

Obviously, as long as people are physically separated, they do not have the opportunity to interact well enough and will have trouble working together. Participants in the research also acknowledged the necessity of interaction and cooperation in IPE:

“As long as our faculties are separated in all respects, and even faculty members see each other only in a few meetings, expecting collaboration and companionship from students is ineffective. The walls between colleges should be removed.”

Cultural Challenges of IPE

An inappropriate cultural atmosphere creates an improper learning environment for IPE. This inappropriate cultural environment for IPE exists at all levels, including curriculum planners and managers, faculty members, and even students. In order to overcome this inappropriate culture in universities, educational authorities of various professions must interact more with each other. This problem is seen not only at universities but also in clinical settings. The professors stated that there attitude problems about IPE in the country:

“Basically our problems are mostly related to attitude. Because we see things only in black and white, we usually develop this attitude. In my opinion, attitude toward education is not as good as the attitude towards other dimensions.”

One of the requirements of IPE is to change the attitude of managers towards moving forward. IPE perspectives should be created because there is a lot of resistance and a change of attitude is required to break this resistance:

“Many administrators of universities and institutions are reluctant to carry out such training because of problems such as funding, executive issues, and the resilience of the professors.”

“The importance of the structures and educational environment problems for IPE is far less than the problem with the mentality of the managers and the attitude of the people who resist such training.”

Faculty members are one of the basic pillars of IPE implementation. In addition to lack of preparedness in terms of knowledge, they are not prepared for IPE in terms of attitude. Successful Interprofessional education requires an enthusiastic, committed, and positive attitude toward other disciplines, individuals, and teamwork:

“A professor who works in IPE and has a positive attitude towards other professions can help these opportunities, but a professor who does not have this vision cannot transfer this viewpoint to students.”

“We have to work on people's attitudes so that they learn to respect each other. Respecting others and accepting other people's opinions should be considered a value.”

Wrong and destructive attitudes in the society and university result in negative stereotypes in the students, leading to the students' lack of knowledge about other majors and individuals. In many cases, some students think their major is more important than other majors and are reluctant to cooperate and interact with other students, which has destructive effects on the health system after graduation:

“Students of different disciplines do not have a good attitude towards each other, which causes disgust.”

“The culture that exists in our universities makes our medical students think that they are better and different from other students. This attitude does not make the students interactive, so students do not have a common mental model for a patient.”

Discussion

According to the participants, designing IPE in an educational system is associated with several barriers such as educational, structural, and cultural barriers. Barriers to the IPE initiative occur at different organizational levels, including policy makers, managers, faculty members, and students. One of the challenges of IPE was the incapability of faculty members. Lawlis et al. expressed lack of individual skills and commitment in faculty members as barriers to IPE (1). Increased collaborative activities at different faculties increase the faculty members' awareness of and interest in IPE, although many institutional and individual barriers may prevent their full involvement as leaders in IPE (19). Development of faculty members as a key factor in the success of the Interprofessional education initiatives have been identified (19). Curriculum-related problems were identified as a major challenge in IPE. The main barriers to IPE based on a Canadian study were schedule, rigid curriculum, and defect in the perceived value of IPE (20). Currently, in most universities, students in various health care majors are trained in separate classes and clinical settings without the opportunity to interact and share information, recognize the roles, and understand the differences, similarities, capabilities, and responsibilities, which are required for team care (21 , 22). Education in isolated settings creates a different ideology, language, culture, and attitude for each profession, emergence of prejudice and specific patterns and mental frames, negative competitions, power imbalance, and dominance-seeking (23). The most important effect of isolated and separate education of health care professionals is disruption and failure in the process of professionalization and socialization of students; as a result, university graduates may exhibit non-professional behaviors after

entering the work environment (24). Therefore, faculty members and students should become familiar with the importance of IPE and the necessary steps to empower them should be taken (such as empowerment workshops). Faculty members should become familiar with new educational approaches and use them in their teaching. Existing curriculums should be reviewed by an Interprofessional team to identify Common points for the design of IPE courses.

Centralization, hierarchy of power, poor educational infrastructures, and lack of organization support were structural challenges of IPE. the challenges of IPE transfer are hierarchy, stereotypic behaviors, traditional ontological education, communication barriers, existing program structures, customs, college education, lack of perceptions of IPE, current structures for delivery of health services, general understanding, current practice, financing, and planning (25). Distribution of power is one of the most challenging debates in IPE (26). Executive-level barriers mainly include understanding whether IPE is worth direct investment and changing the institution's mission. It is important that managers understand the need for change and facilitate the change in education and practice of professions as health care changes. In addition, at the executive level, supports such as timetable and space are needed for long-term commitment to IPE. IPE managers have the responsibility to motivate faculty members to make changes in order to develop IPE. Operational management of the educational system in many professions requires a change in the curriculum arrangement, including the physical space as well as the design of the courses and timetable. There may be a need to modify the existing structures in colleges. Ideally, the faculty members should be consistent with IPE. Another barrier to IPE is the challenge of matching Interprofessional classes in health-related professions. It is not easy to schedule a timetable for IPE and find available classes to fit the large number of students. More resources should be allocated to develop the existing structures for IPE (27). Designing and implementation of IPE is a structural task that faces challenges such as timing, course content matching, resistance of faculty members and managers, culture of collaborate learning between professors and students, and institution policies to share courses in colleges (1). A successful IPE program needs financial support, support from managers at all levels, and investment in human resources and time (28). Existing structures should be adjusted and, if necessary, new structures should be created. Sufficient physical space should be provided to students and professors and the supportive environments of IPE should be developed. The centralism and Hierarchical attitude on organizations should be eliminated through Interprofessional education. Adequate Funds need to be allocated and universities must be done to conduct Interprofessional education courses.

The findings of the study showed that cultural challenges that were mainly related to the attitude of managers, faculty members, and students influenced the design and implementation of IPE. Developing a culture of IPE requires faculty members in various majors that value Interprofessional education and are committed to collaborative work for the creation of a shared vision. Faculty members need to engage in skill and quality improvement, patient safety, and interdisciplinary interaction within the health care system to teach the content and serve as role models and mentors for students (29). In addition to the role of beliefs and values in the essence of IPE, attitude is also an ideological element. Significant emphasis of almost all participants revealed the importance and necessity of cultural change as well as the role of attitudes and ideological elements in IPE. The process of changing the attitude and moving

toward IPE requires a change in the organization's culture, which is a slow and gradual process (26). Inappropriate cultural space of education in universities and hospitals, especially in educational hospitals, creates an inappropriate learning environment for IPE. In addition, the policies of the system relative to IPE have a negative impact on current cultural conditions, such as concerns about inattention to the values of other professions and incompatible competitive culture of various professions due to unfamiliarity with professional responsibilities. Therefore, inappropriate professional culture and individualism are encouraged in most educational programs (30). So, managers need to get acquainted with the necessity of Interprofessional courses through Interprofessional research, seminars, congresses and workshops to break the existing resistance and to develop policies for introducing IPE into existing curriculums. Appropriate cultural space should be developed to intimate students with other disciplines and eliminate negative stereotypes which Interprofessional education can be used as a proper solution. Faculty members who are enthusiastic and committed to IPE must be identified and involved.

Conclusion

Since medical education is inevitably required to use Interprofessional education to acquire effective teamwork skills and care, policymakers should seek to integrate Interprofessional education in curriculum and address the barriers and challenges. The present study showed that designing and implementing of Interprofessional education required overcome to educational, structural and cultural challenges that are the main obstacles to the designing of IPE courses. Politicians, universities, professors and students should be familiar with the necessity of Interprofessional education, create new structures as much as possible or update existing structures. In the area of Interprofessional education, there should be serious action on the attitude of individuals, especially at senior management levels, and appropriate culture of collaborative work must be developed.

List Of Abbreviations

IPE: Interprofessional Education

Declarations

Abbreviations

Not applicable

Ethics approval and consent to participate

Ethics approval was obtained from the Shahid Beheshti University of medical sciences. Written informed consents were obtained from all participants.

Consent for publication

Not applicable.

Availability of data and material

The datasets during the current study are not publicly available due to confidentiality of the students' data, but they will be available upon reasonable request.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

SA, and DR participated in study design, data collection, and data analysis. ZM participated in data collection and data analysis. All authors read and approved the final manuscript.

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Tables

Table 1: Codes, Subcategories and Categories of Study

codes	Sub categories	Categories
Lack of familiarity of professors with IPE	Inability of faculty members	Educational challenges
pseudo-IPE knowledge of professors		
Wrong Belief of professors in knowing IPE		
Lack of skill of professors in IPE		
Lack of knowledge of professors		
Great distance from IPE	Weakness in current education	
Informal interpersonal Education		
Unplanned IPE		
Traditional education system		
Single professional education		
Disproportionate education with teamwork		
Person-centered education		
Teacher based education		
Inefficient education		
Old teaching methods		
Lethargy-inducing educational environments		
Stressful education		
Traditional thinking	Lack of innovation and creativity	
Lack of creativity in the education		
Restrictive environments		
Passive students		
Not worthy of new ideas		
Single professional curriculum	non-flexible curriculums	
Subject-centered curriculum		
The need to modify the curriculum		
Rigid curriculum		

Traditional curriculum		
Inability to change curriculum		
Lack of decentralization	Centralization and hierarchy of power	Structural challenges
Pyramid Decision Making		
Top-down decision making		
Power hierarchy		
Concentration of power		
Inappropriate power distribution		
Power levels		
Inappropriate structures	Inadequate infrastructures	
Limited space		
Traditional infrastructure		
Separate schools		
Vital roles of Infrastructure		
Necessary infrastructure		
Structural Problems		
Organizational Inhibition	Lack of organizational support	
Necessary organizational facilitation		
Complex administrative system		
Resistance in organizations		
Cumbersome regulations		
Resistance at high levels	Resistance to change	Cultural challenges
Resilient Attitudes of Managers		
Mental resistance		
Rapid rejection of Directors		
Resistance at managerial levels		
Resistance in universities		
Strong resistance		
The traditional attitude	Non-commitment of faculty	

members

Lack of enthusiasm to IPE

A single professional attitude

Negative attitude to other professions

Misconceptions about other professions

Negative attitude to IPE

Not commitment to other professions
learning

Self-confidence

Destructive attitudes

Suspicion

Hatred

Top-down view

Conflict

self-Isolation