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Faculty member's experience regarding rehabilitation teamwork education in Iran (A descriptive exploratory qualitative study)

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Abstract:

BACKGROUND: The objective of rehabilitation therapists is to increase the functional abilities and quality of life in people with disability. Hence, cooperation becomes a basis for enhanced quality of care. The current study aims to investigate the experience of faculty members at the School of Rehabilitation Sciences, regarding teamwork education for rehabilitation students.

MATERIALS AND METHODS: This was a descriptive-exploratory qualitative study. Maximum variation purposive sampling was used, where in-depth, semi-structured interviews were conducted with 13 faculty members working at four departments of the School of Rehabilitation Sciences, Shiraz University of Medical Sciences, in the year 2015–2016. Each interview was transcribed word-by-word and went under analysis through MAXQDA 10. Finally, after reviewing the transcripts several times, the primary codes, subthemes, and themes were formed.

RESULTS: Data analysis resulted in the formation of 469 open codes. Three themes emerged, including the experienced challenges to interprofessional education (IPE), experienced facilitators of team collaboration, and optimization of IPE. The subthemes of the first theme included personal challenges, academic context, and sociocultural atmosphere. The subthemes of second theme-included experience with various forms of interprofessional (IP) collaboration, IPE in certain clinical areas, and scarcity of role models for IPE. The subthemes related to the third theme involved the development of macro policies to facilitate IPE increased interpersonal collaboration and reduced expectation of competition, and management and development of educational capability in professors.

CONCLUSIONS: It seems that faculty staffs do not provide the same definition of teamwork education and often do not prioritize it in their clinical teaching. Furthermore, barriers, facilitators and some solutions were discussed by them.

Keywords:

Interprofessional education, qualitative research, rehabilitation, teamwork

Introduction

The term "Disability" covers a wide array of impairments in the body function and structure, limitation in the performance of tasks and activities, and perceived barriers to participation in different life situations.^[1] According to the International Classification of Functioning,

Disability and Health, the goal of treatment in people with disabilities is to reduce the impairment relating body structures and functions, prevent and reduce activity limitations, and increase participation.^[2] Since disability can be related to several systems in the body and can affect various aspects of a person's life, the care provided should be holistic and meet all the needs of a person with disabilities.^[3] The final and common goal of a rehabilitation team

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is to increase the functional capabilities of people with disabilities, including physical and psychosocial functions, and consequently improve their quality of life.^[4] Therefore, cooperation and coordination between members of a rehabilitation team would be a foundation for providing better care services and reaching optimal care outcomes.^[5]

Models of teamwork activity in rehabilitation fall under three categories – multidisciplinary, interdisciplinary, and transdisciplinary.^[1] In this regard, the multi- and inter-disciplinary models are more commonly used. In the multidisciplinary model, each member performs the necessary evaluations and develops a treatment plan separately, and is only in contact with the team leader, which leads to a set of services that each member is providing individually. Meanwhile, in the interdisciplinary model, there is shared participation in the proposal and solving of problems, as well as frequent bilateral consultations. This type of team collaboration would lead to bilateral empowerment and increased efforts, which would produce outcomes far better than what each profession could achieve individually.^[3] Research shows that interprofessional (IP) teamwork has a significantly better impact on treatment than multiprofessional teamwork,^[6-9] and would lead to the provision of effective, attractive, and customer-oriented services, along with reduced repetition and improved the level of treatment planning.^[10]

Since traditional and discipline-based education in medical sciences would result in limited opportunities for collaborative and IP practice,^[11,12] IP education (IPE) has been recommended as a possible strategy to improve the quality of IP services.^[13] Moreover, following the WHO report in 2010 titling “Framework for Action on IPE and Collaborative Practice,” educational planners have been seriously encouraged toward the use of IPE and collaborative practice.^[14] IPE refers to occasions when two or more professions learn with, from and about each other as a means to improve collaboration and quality of care.^[15,16] Health profession instructors are responsible to engage students in a learning process that will result in understanding of IP collaboration and engagement in a collaborative process^[17] to enhance attitudes, knowledge, skills, and behaviors for collaborative practice^[16] such as understanding of the other profession's role as well as insights into the value of the other professions^[17] which can make improvements to clinical practice.^[16]

A systematic review in 2013 shows that IPE has a deep impact on collaborative teamwork and reduction of emergency medical error rates, collaborative teamwork in the operating room, practice management in cases of domestic violence, and mental health competency of practitioners in regard to provision of care services to

patients, diabetes management, and patient satisfaction.^[18] However, this type of education has been reported to be challenging in all areas of medical sciences.^[19] MacKay *et al.* stated in their study that the members of a medical team usually receive different educating in regard to “communication,” and this could become problematic.^[20] It was mentioned in other studies that different attitudes toward the concept of collaboration, different understandings of the roles of other members, and different statuses of team members are among barriers to teamwork and respective educating courses.^[3] Regard to those problems, it was also mentioned that faculty development (teaching to teachers) is needed to enable competent and confident facilitation of IPE.^[16]

In Iran, the majority of rehabilitation services are multidisciplinary, and it seems there are certain challenges and barriers to IP teamwork in practice. The qualitative study conducted by Shaghayeghfard *et al.* in Shiraz with the help of a researcher-made questionnaire showed that the rehabilitation experts and specialists in this city have a positive attitude toward IP teamwork, but there is a lack of IP collaborations and teamwork spirit among the different groups in rehabilitation disciplines. Half of the participants in that study believed insistence and prejudice on beliefs to be necessary for rehabilitation teamwork, and considered asking for help from another team member to be a negative attribute, which are both technically barriers to teamwork, not facilitators.^[21] Therefore, in such a working environment, we must investigate how rehabilitation teamwork education is being conducted in the country. On the other hand, IPE is currently not included as either a theoretical or applied course in the bachelor's level curricula for rehabilitation disciplines.^[22] Thus, it is essential to deeply investigate the perspectives and experiences of professors of rehabilitation sciences as the main teachers of IPE. Through such an investigation, the strength and weaknesses will become clearer, and the findings can be of great help to the educational planners and policy-makers in rehabilitation areas to pave the way for IPE toward the improvement of IP practice. A review of previous literature in Iran revealed a lack of enough evidence published on the perspectives and experiences of professors regarding teamwork education in rehabilitation. Therefore, the current study aims to explore and understand the experiences and perspectives of professors at the School of Rehabilitation Sciences, Shiraz University of Medical Sciences, regarding teamwork education for students of rehabilitation medicine.

Materials and Methods

Design

This was a qualitative, descriptive-exploratory study. This type of study design is a new method stemmed

from nursing research. In this regard, Anells states that researchers must perform certain aspects of the grounded theory in their study, such as coding until reaching a conceptual sequence, to get achieve a fundamental understanding of the subject under study.^[23]

Participants

The present study was conducted in the School of Rehabilitation Sciences, Shiraz University of Medical Sciences, in the academic year 2015–2016. Purposive sampling was used in this study with maximum variation based on department, age, and gender, and work experience. Subjects were selected from the professors working at the School of Rehabilitation Sciences, Shiraz University of Medical Sciences, in various disciplines (physiotherapy, occupational therapy, speech therapy, and audiology). These four disciplines, namely physiotherapy, occupational therapy, speech therapy, and audiology, were the only ones being taught in the Shiraz School of Rehabilitation Sciences in the year 2015–2016.

Data gathering

In this research, semi-structured, in-depth interviews were conducted for the purposes of data collection. Overall, a total of 13 faculty staffs were interviewed – seven females and six males. Interviews were all one-on-one and face-to-face in their room at the faculty. The professors participating in the study had work experiences ranging from 1 year to 25 years. Participants all had experience with the provision of both theoretical and clinical education to students of rehabilitation sciences.

Each semi-structured interview would begin with the following general questions: When you hear about the concept of providing teamwork education to rehabilitation students, what do you think about it? What experience or experiences do you have teaching teamwork to rehabilitation students? Then, the responses were followed up through further questions until a deep understanding was acquired of the main themes and the experiences of participants. Moreover, each interview was used as a guide to design the questions of the subsequent interview. Interviews each took between 30 and 90 min.

Interviews were all audiotaped with the permission of the interviewees and transcribed word-for-word after each session. In order to abide by research principles, the phrases and sentences expressed by the participants were paraphrased in formal writing without any loss of meaning.

Analysis

The transcripts were reviewed multiple times by the researcher and entered into MAXQDA 10 for analysis

through the first stage (substantive) of Glaser's classic grounded theory model. In this regard, the following steps were taken:

(A) Open coding, which included three stages: Reading the full transcripts and identifying related texts (incident), conceptualization, and comparative data analysis and memo writing for subsequent transcriptions; (B) selective coding: This stage was the same as the previous stage, but instead of selecting related texts and comparing them with other related texts, this time we tried to compare the concepts with each other, aiming to reduce the number of concepts and summarize them in the form of themes. Since the researcher is focused on a list of main or core themes identified in this stage, the stage is called selective coding.^[23,24] In the current study, after 13 interviews, the researcher was persuaded that there was no additional or new information that would lead to the creation of a new theme.

Trustworthiness

Credibility was ensured through prolonged engagement with data during and at the end of each interview.^[25] One of the professors announced that he had previously published an article on teamwork in Farsi in one of the well-known university-based journals in Iran, the results of which can be used as a complementary to his statements; the article in question was also used in the present study. To confirm the dependability of the questions in this research, the questions were asked in various ways to reduce or eliminate the possibility of receiving incorrect information. We also tried to conduct the interviews with accuracy and without bias, in a way that if other researchers were to repeat the procedure in the same or similar conditions, they would achieve the same or similar responses. Furthermore, to ensure the reliability of our data analysis, the researcher went to each participant and asked them if the final description of findings can reflect their experiences or not (member check). In case of addition or elimination of data by any of the participants, relative modifications will be made to the final transcription. Moreover, peer checking was employed to ensure the conformability of our data analysis. The data produced in this research were reviewed and revised by three experts in the field of qualitative research.

Our research project was initially approved by the Research Committee of the Shiraz University of Medical Sciences. Furthermore, toward adherence to ethical guidelines, the participants were informed of the study objectives before commencement, and the interviews were conducted and recorded with their written consent. In line with the ethical guidelines, the participants were ensured that: (A) the information obtained during interviews will be used anonymously; (B) their

information will remain confidential, and will never be used for or against them anywhere; and (C) the interviewer will use the information as it is, without any alterations.

Results

Table 1 presents the demographic information of the 13 participants in this study. The main themes emerged after data collection and analysis. Data were categorized into three themes, namely the experienced challenges to IPE, experienced facilitators of team collaboration, and optimization of IPE. These categories will be explained in the following using the participants' statements. Table 2 provides a summary of the themes, subthemes, codes, and meaning units identified in this research.

Experienced challenges to interprofessional education

This category specifies the challenges and barriers experienced by the professors of rehabilitation sciences in regard to IPE and comprise the subthemes of personal challenges, academic context, and sociocultural atmosphere.

Personal challenges

Based on the information provided by our participants, the codes obtained in this subtheme included concern for professional capability, different definitions of teamwork education, conflict of interest, lack of a deep sense of need for IPE, resistance to change, professional bias, and lack of adequate familiarity with the roles of other disciplines, and the areas covered by them. Some of the statements of our participants will be presented in the following:

Table 1: Demographic information of participants

	Demographic characteristics of participants
N	13
Mean age	43±7
Sex	
Female	7
Male	6
Specialty	
Occupational therapists	4
Physiotherapists	6
Audiologist	1
Speech language pathologists	2
Teaching experience (years)	
Under 5	3
5-10	5
10-20	2
>20	3
Management experience	
Participants have	9
Participants don't have	4

Regarding the lack of a deep sense of need for IPE, participant number 12 stated that: "people always try to justify themselves for not doing what's necessary. This is my problem as well; what I'm trying to say is, we are all like that... I must emphasize again, I doubt that professors believe in a need for teamwork education to the point that they would do something about it..." This participant says about conflicts of interest: "we are constantly going toward conflicts of interest between different departments. Now, in such a situation, even if we provide teamwork education in academic environments, and form this belief in people's minds, it will be an unstable belief, because not only it will not be reinforced in later stages, but it will also be weakened. Sure, people learn to do teamwork in the academic environment of college where there is not much conflict of interest, but when they enter the working environment, in a private practice for instance, or a private hospital, they start thinking that referring a patient to another colleague would mean giving up a portion of their own income; then, they eventually reach the idea that why shouldn't I do this myself... We have specified very separate areas of professional interest for each group, and if anyone crosses these red lines we have defined, they will face resistance, and all this have caused us to find ourselves in an archipelago, without any communication between the different islands..."

In regard to professional bias, participant number 2 expressed that: "... some of our colleagues here, working in different departments, might even start criticizing other disciplines in front of the students at their classes... this means polarizing the disciplines..."

Academic Context

The codes extracted from our interviews in this subtheme were the difficulty of IP management, resource limitations, and heavy workload.

In relation to the difficulty of IP management, participant number 8 said that: "... time management was a bit too difficult, and another issue was that we had to introduce patients who everyone could actually comment upon... well, it was unfortunately not possible for us to continue..."

Relating resource limitations, participant number 7 stated that: "... it's not like all required specialties are gathered in one setting... Our clinics are generally separate; occupational therapy has a separate ward and physiotherapy is located elsewhere; sometimes the occupational therapy and physiotherapy departments can't even be in the same building..."

Sociocultural atmosphere

The codes obtained in this subtheme according to our participants included encouragement toward

Table 2: Summary of the themes, subthemes, codes and meaning units

Theme	Subtheme	Code	Meaning unit	
Experienced challenges to IPE	Personal challenges	Concern for professional capability	Participant #7: ... when I think that I am a college professor now, so I must know everything myself, and then I find out in teamwork that someone else from another discipline is better than me, or that I don't know certain things in my own discipline, it would kind of make me feel weak, which would in itself be a barrier to teamwork, and to the simultaneous teaching of teamwork to students from multiple disciplines...	
		Different definitions of teamwork education	Participant #12: ... I think each of us has a specific idea or knowledge or understanding of teamwork. I'm not so sure if these perspectives are shared perspectives...	
		Conflict of interest	Participant #12: ... maybe conflicts of interest are unavoidable in our mental background! I mean our deductions of a given incident are sometimes affected by our mental background, isn't it so? Frankly, this might be one of the reasons for lack of seriousness in rehabilitation teamwork education...	
		Lack of a deep sense of need for IPE	Participant #7: ... teamwork education is generally not one of our priorities, so, we professors don't even think to teach such a thing. I mean, we are so busy with other things that...	
		Resistance to change	Participant #13: ... it could be that professors are maybe resisting to recent changes a little bit...	
		Professional bias	Participant #4: ... there are certain small quarrels in the workplace that must be stopped. That CP is mine, this is mine, is that yours? The upper extremities are mine...	
		Academic context	Lack of adequate familiarity with the roles and areas covered by other disciplines	Participant #13: ... I feel we are like scattered islands. Because we have little knowledge of each other. When members do not know each other, and duties are not defined, well... we kind of each do our own jobs, and even sometimes interfere with each other's tasks...
			Difficulty of IP management	Participant #8: ... unfortunately, it was so hard to coordinate (IPE). I mean, as much as we tried to gather these disciplines together, we could only do it once or maximum twice during an entire semester! And after much difficulty...
			Resource limitations	Participant #10: ... teamwork education is good, but not with the existing facilities, because they are so inadequate. In terms of equipment, location, number of faculty members, and all that...
			Heavy workload	Participant #10: ... the load of work in the university, which includes educational, research, executive, consulting and cultural activities, keeps the professors quite busy... therefore, you can hardly involve 2 professors or more in teaching at the same time...
Experienced facilitators of team collaboration	Sociocultural atmosphere	Encouragement toward individualism instead of collectivism	Participant #4: ... our management structures are like blowing hot and cold. Meaning that on one hand, they tell us to do teamwork, and on the other, when we start working among different groups, become a thesis adviser, for instance, they come and throw a wrench in the works themselves...	
		Lack of proper teamwork education before academic years	Participant #4: ... teamwork can help, but unfortunately, it doesn't exist, because we don't know how to do it. No one has taught us ever since childhood... we do not have the spirit of collaboration... the lack of teamwork is deeply felt...	
Experienced facilitators of team collaboration	Experience with various forms of IP collaboration	Educational and research team collaboration between professors	Participant #8: ... currently, the majority of theoretical courses that we teach at the undergraduate and graduate levels in our college are presented via team teaching. I can say that very few courses are left that are not taught through team teaching. I personally am teaching via team teaching at almost all levels, which of course has its own set of problems...	
	IPE in certain clinical areas	Limited IP clinical education	Participant #: ... due to the scarcity of public clinics, we took them to the private sector; meaning that two days a week, we take the students to center A, where this exact possibility exists. For instance, there is an audiologist there, an educator, a manager, a speech therapist, and so on... However, since many public clinics do not provide such a possibility, most students haven't seen teamwork as they should have...	

Contd...

Table 2: Contd...

Theme	Subtheme	Code	Meaning unit
Optimization of IPE	Scarcity of role models for IPE	Scarcity of individuals acting as role models for IPE	Participant #3: ... anyone who wants to provide teamwork education must have experience themselves. That's the only way they will be successful in my opinion... at least several years of experience, and well, maybe we don't have such people as much as we should... For instance, Dr. A comes to mind, who provides IPE in Namazi hospital and values all disciplines; the students witness this as well...
	Development of macro policies to facilitate IPE	Selection of macro managers in rehabilitation with a perspective of IPE and treatment	Participant #6: ... the rehabilitation system is a team, and we, who teach as faculty members, are the arms of this team. Naturally, those at the top of the pyramid of rehabilitation education should know how to manage this team and use its potentials, so that we can have teamwork education...
		Development of an IP curriculum	Participant #9: ... it wouldn't hurt to include the subject of teamwork somewhere in the curriculum of occupational therapy... well, let's not just limit it to occupational therapy, other disciplines as well must include this topic as a separate course, or at least as a syllabus in one of the relative courses. In any case, teamwork education must be added to the curricula...
	Increased interpersonal collaboration and reduced expectation of competition	Facilitation of student/professor collaborations	Participant #11: ... for instance, when some graduates don't know a given concept, I tell them "well, you two go and find the meaning together, then come and present it to me."; Then, they come the next time and give their presentation whichever way they want, whether it be verbal or with the use of tools such as PowerPoint. But, this pairing takes place... I think these collaborations would improve the teamwork spirit in the academic culture...
	Management and development of educational capability in professors	Educational collaboration with the university's educational development center toward provision of IPE to professors	International interactions toward empowerment of professors
IP faculty seminars			Participant #7: ... for example, we can invite people who have experience working and teaching abroad.... It is a significant matter that they had actually witnessed teamwork in those educational systems... we can even send our professors abroad to take the necessary courses, and then use their practical experiences after their return, or invite professors from other countries who have experience with teamwork education... Participant #12: ... I think the first step toward needs assessment for teamwork education is to hold a brainstorming session for faculty members in order to find out if they have the same definition of teamwork. In my opinion, this mutual understanding must be reached, so that we can specify the frameworks of teamwork education, and design and implement executive strategies. This is the most effective method...

IPE=Inter professional education, IP=Inter-professional, EDC=Education Development Center

individualism instead of collectivism and lack of proper teamwork education before academic years.

In regard to encouragement toward individualism instead of collectivism, participant number 11 asserted that: "... the basis of academic culture is first, teamwork, and secondly, critical thinking about each other. In my opinion, if these two items don't exist, the entire academic practice will be quite weak. This here is, by the way, one of the main problems in our academic structure; the fact that individual work and individualism are mostly encouraged..."

Participant number 4 stated that: "... we put in the effort to work among different groups, scientific collaborations for instance, and they themselves (the academic system) come

and throw a wrench in the works... I honestly don't think such behavior would even exist in most foreign countries."

Experienced facilitators of team collaboration

This theme covers the professors' experiences of the facilitators of IPE and includes the subthemes of experience with various forms of IP collaboration, IPE in certain clinical areas, and scarcity of role models for IPE. In the following, we will present a number of samples from the interviews:

Experience with various forms of interprofessional collaboration

Only one code was extracted in this subtheme, namely educational and research team collaboration between professors. In this regard, participant number 10

expressed that: "... we do hold secondary IP workshops for students within the framework of the New Horizons Congress, which are available to interested individuals..."

Moreover, participant number 12 said that: "... what we have done in this regard, which cannot really be called teamwork and is more like integration, is that we tried to integrate the materials of clinical and basic sciences in all disciplines. Of course, this is not teamwork... but maybe this could help to some degree, as it could make the members of the rehabilitation team feel the need for other types of treatment when discussing the patient's problems and determining the necessary treatments..."

Interprofessional education in certain clinical areas

The code obtained in this subtheme was limited IP clinical education. Parts of the interview with participant number 3 are provided in the following:

"... we are about to start a new project in the Shiraz Evolution Clinic with the help of God; we have already written its proposal, and initiated the proceedings; we also held a session with the presence of representatives from various disciplines, including speech therapists, occupational therapists, pediatricians, neurologists, and so on, and many were interested in doing teamwork. All criteria are met now, and we will soon commence work with help from God..."

Scarcity of role models for interprofessional education

This subtheme included one code, which was the scarcity of individuals acting as role models for IPE.

In this regard, participant number 11 held that: "... there are very few people (professors) who had witnessed teamwork abroad and are trying to establish the same standard and successful methods here. But unfortunately, the majority of professors have no knowledge on teamwork themselves, let alone wanting to teach it to their students..."

Optimization of interprofessional teamwork

This theme involves the professors' suggestions for the improvement of IPE in the School of Rehabilitation Sciences. The subthemes emerging in this category included the development of macro policies to facilitate IPE, increased interpersonal collaboration, and reduced expectation of competition, and management and development of educational capability in professors.

Development of macropolicies to facilitate interprofessional education

In this subtheme, the extracted codes were the selection of macro managers with a perspective of IPE and treatment and development of an IP curriculum.

Regarding macromanagement with a perspective of IPE and treatment, participant number 12 asserted that: "... in my belief, so long as teamwork is not involved in practices outside the academic environment, a real teamwork perspective will not be formed; this would require the presence of specific authorities in the area of rehabilitation sciences, who have a thorough knowledge of rehabilitation and IP practice... Now, the first issue here is that there are no specific authorities in this area, and second, the managers do not have a correct perspective on rehabilitation, and thus, rehabilitation is sort of orphaned... In the traditional perspective on rehabilitation, after identifying people with disabilities, they would at best provide them with some level of help and support, give them some appliances, and eventually determine a monthly pension, which often goes to the mother for taking care of her disabled child. Now, in case necessary, they might also provide 10 sessions of rehabilitation services within the period of a year. This has actually happened before. So, where is the teamwork in all that? How will teamwork education help with that? Therefore, I think our flaw here is that even if we provide teamwork education under the current conditions, the services are not provided as a team, and our education will become pointless. This is just like the case of many other courses that we provide classically, but in practice, they are performed in a nonclassical and impractical manner. Our graduates leave the academic environment with highly classical mindsets, but when they enter the working environment, that same nonclassical, traditional, uncontrolled attitude quickly prevails. Under such conditions, what would be the meaning of teamwork education..."

Increased interpersonal collaboration and reduced expectation of competition

The only code obtained in this subtheme was the facilitation of student/professor collaborations. In this relation, participant number 2 stated that: "... the teamwork that the students did with us in the occupational therapy day celebration was amazing. I think it was an example of successful teamwork. Because they wanted to do it, they had volunteered, it was not mandatory, and they were not in competition, so they didn't need to suppress each other. In fact, they facilitated each other. If we design noncompetitive group activities in the universities, everyone will little by little understand the meaning of collaboration and teamwork better, and get a taste of the success it brings..."

Management and development of educational capability in professors

The codes extracted in this subtheme included educational collaboration with the university's educational development center toward provision of

IPE to professors, international interactions toward empowerment of professors, and IP faculty seminars.

In regard to IP faculty seminars, participant number 6 says that: "... we must sit in meetings with other professors and share our experiences. For instance, someone says I've done this or that teamwork and I was satisfied with it. That would be quite beneficial. At least, we share the things we have done, the positive incidents that happened, and the feedback we have received. This will help a lot. This way, we can actually realize that teamwork is good. Maybe we haven't felt that yet. We have not witnessed teamwork, or experienced its positive feedback..."

Discussion

The aim of this study was to explore and understand the experiences of professors at the School of Rehabilitation Sciences, Shiraz University of Medical Sciences, in regard to the provision of teamwork education to rehabilitation students. According to this study, these professors' experiences and perspectives on rehabilitation teamwork education fell under the three themes of experienced challenges to IPE, experienced facilitators of team collaboration, and optimization of IPE.

In the opinion of the professors under study, although the members of the rehabilitation team are gathered together within the framework of the School of Rehabilitation Sciences, there are still many problems facing coherent performance in education, research, and treatment, and these disciplines are like scattered islands far away from each other. It seems that one of the main barriers to the provision of IPE to rehabilitation students is the professors' lack of knowledge on the competencies of other disciplines. Furthermore, the professors stated that they had not received proper education on the subject during their academic years, and there are currently no courses held for faculty members in order to become familiar with other disciplines of rehabilitation sciences.

In addition, different professors had provided different definitions of teamwork education to their students, which fell into any of the educational, research and clinical categories depending on each professor's area of interest. In relation to teamwork education in the clinical area, some professors had merely taught referral to other disciplines, some others had taught the use of IP consultation, and some considered education on medical evaluation and treatment planning to be IPE. This has led to the limitation of IP interactions. In this regard, it was suggested to hold IP faculty seminars and sessions for more communication and cohesiveness of involved disciplines aiming to optimize teamwork education in rehabilitation medicine.

Another challenge is professional prejudice which limits discussions relating common IP areas. It seems that this issue, along with conflicts of interest, are among the reasons behind the lack of proper teamwork education in the current rehabilitation sciences, and they are both intensified under the influence of the currently predominant atmosphere in educational, research and treatment policies. In some way, this has prevented a number of participants in this study from feeling a deep necessity for IPE and believes that change is difficult under these conditions.

On the other hand, based on the findings of this research, it seems that the prevailing sociocultural and academics macropolicy conditions in the country mostly facilitate individual performances rather than group activities, and competitiveness dominates IP collaboration. Babur and Liaqat as well reported the presence of an IP competitive atmosphere in the sociocultural conditions of Pakistan relating rehabilitation sciences as a barrier to IP collaboration too.^[26] In their systematic review in 2016, Eddy *et al.* state that the organizational culture and expectations would affect professional collaboration and the experience of teamwork, and that the organizations facilitating and teaching IP collaboration have been more successful than other organizations in the implementation of IP experiences.^[27]

It seems rehabilitation is almost abandoned in Iran's healthcare policy-making. Without a doubt, the macro policy-makers of the country in the area of rehabilitation sciences need to become thoroughly familiar with rehabilitation objectives, covered areas, disciplines, and competencies, as it is only through extensive knowledge in the field that teamwork education will be encouraged and reinforced in policymaking.

Among the facilitators of rehabilitation teamwork education, we can point to experience with various forms of IP collaboration with professors of different professions in teaching theoretical courses to students. Collaborative teaching is done with the purpose to use experts in various professions and different contexts to teach the courses. Although these IP and IP collaborations can pave the way for students to become familiar with other rehabilitation disciplines, and engage in IP collaboration in the future themselves, certain problems are still observed in this regard, such as parallel working of professors and lack of adequate interpersonal interactions and communication regarding the contents, homework, and final examinations.

In line with previous studies, we state here that one of the requirements of teamwork is the coherent execution of plans that revolve around the client's problems, which in itself requires the loyalty of team members toward each

other, support and mutual respect, and being aware of everyone's roles in the rehabilitation team. Each team member must understand his or her own discipline and its limitations, as well as personal limitations, and be prepared to learn from other members. Therefore, characteristics such as trust, knowledge, proper task assignment, effective communication, collaborative spirit, optimism, harmony, and strong work ethic, adequate knowledge and experience, proper task assignment and commitment to other team members must be present in all members. On the other hands, factors such as unfamiliarity with one's role in the team, unfamiliarity with others' roles, contradiction, or sometimes overlapping of roles, team heterogeneity, differences between members in the limits of their discipline, defensive attitude toward one's roles in the team, inaccessibility of all members, inadequate facilities, little teamwork experience, lack of support, and pressure from the organizational structure are all known to be causes of problem, or sometimes failure, in rehabilitation teamwork.^[3,28] In the study conducted by Khabaz *et al.* in Iran, heavy workload of professors, issues with coordination for IP programs, resistance from different departments, centralization of courses instead of IPE, nongroup cultural atmosphere, devaluation of certain professions, and limited financial resources were reported as barriers to IPE among medical groups.^[29]

However, despite all existing issues, a small number of our participants did not believe teamwork education to be useless and insignificant. One of the interviewees stated that: "It is just like our driving. Now that such a chaotic situation is going on with driving in our country, is it necessary to teach the principles of driving to anyone? Should we include a regulations section in the driver's license test? I think the answer is definitely yeas. Because we are choosing between bad and worse here. If we don't even provide this education, the situation will get far worse, as we still have areas where such conflicts of interest are less common. There might be fewer contradictions in our public sector, and they may have more things in common... Even though I believe that as long as teamwork is not properly institutionalized in practices, which would in itself require the transformation of conflicts of interest into shared interests, teamwork education will not be effective, it doesn't mean we should abandon teamwork education..." Considering this matter, and the great importance of teamwork education in the documents of medical and rehabilitation groups, it seems that teamwork education is an undeniable necessity, which requires thorough executive planning from the policy-makers of rehabilitation education in Iran.

Despite the problems mentioned in this study by participants to be in the way of teamwork education

in rehabilitation, design, and implementation of IP rehabilitation education courses has currently started in certain clinical areas with the help of interested and experienced individuals who can act as role models for teamwork. We hope that these efforts will be facilitated with proper managerial support and resource allocation from the university. It seems that we can pave the way for rehabilitation teamwork education by thorough execution and evaluation of IPE programs and elimination of challenges.

Overall, according to the experiences of participants in this study, teamwork education for students of rehabilitation medicine is not currently in a good condition in our country and is faced with various problems at individual, institutional and governmental levels. Our participants' experiences were categorized and described in three conceptual categories, namely the experienced challenges to IPE, experienced facilitators of team collaboration, and optimization of IPE.

Limitations

Among the limitations to this study is that it only explores the experiences of professors and operational managers. Therefore, it is recommended to investigate the opinions and experiences of senior managers and educational planners in rehabilitation sciences regarding teamwork education on the one hand, and the experiences of students at the School of Rehabilitation Sciences on the other hand, so that by reaching a deep understanding of such experiences including barriers and facilitators and also unknown mediated item, we can take more powerful steps toward design and implementation of teamwork education in rehabilitation medicine especially in rehabilitation curriculums. Moreover, it seems that there was good diversity among the participants in this study in terms of professions existing in the Shiraz School of Rehabilitation Sciences at the time of the study, as well as age and educational and managerial experience.

Conclusions

The current study showed that environmental factors, such as health policy-making in the areas of education, research and treatment, and personal perspectives, have created a situation where only limited satisfying experiences currently exist in the country in regard to teamwork education in rehabilitation sciences. This matter undoubtedly requires serious exploration and attention. In an educational environment that facilitates teamwork activities, rehabilitation students will learn collaborative teamwork, and will actually implement it after graduation in teamwork-facilitating environments. Therefore, by understanding the problems and putting in a serious effort to solve them through proper policy-making and allocation of adequate material

and spiritual resources, along with modification of individualist cultures and avoidance of unhealthy competition in society and academic environments, we can try and improve the conditions of teamwork education in rehabilitation medicine. This study elucidated the deep experiences of professors at the Shiraz School of Rehabilitation Sciences in relation to teamwork education.

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Conflicts of interest

There are no conflicts of interest.

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