

Assessing the Viewpoint of the Faculty Members and Graduates of Kerman University of Medical Sciences Toward Interprofessional Education and Interprofessional Teamwork

Behshid Garrusi¹, Ali Amirkafi², Saideh Garousi^{3*}

¹ Professor of Psychiatry, Neurosciences Research Center, Institute of Neuropharmacology, Kerman University of Medical Sciences, Kerman, Iran

² Medical Student, School of Medicine, Iran University of Medical Sciences, Tehran, Iran

³ Professor of Social Sciences, Social Sciences Department, Human Sciences School, Shahid Bahonar University, Kerman., Iran

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***Corresponding author:**

Social Sciences Department,
Human Sciences School, Shahid
Bahonar University, Kerman,
Iran. Email: saidehgarousi@
gmail.com

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Abstract

Background: interprofessional education (IPE) is an educational method, in which students learn two or more specific professions together, from each other, and about each other IPE for health students has been proposed as an alternative to conventional teaching methods.

Objectives: The aim of this study was to investigate the viewpoint of faculty members and graduates of Kerman University of Medical Sciences regarding IPE and interprofessional teamwork and determine the characteristics affecting their views on IPE and interprofessional teamwork

Methods: This cross-sectional study was done on faculty members and graduates of various fields of medical sciences working in Kerman in 2018. Samples were selected by quota sampling method. To collect data, questionnaires of "Attitude Towards Interprofessional Health Care Teams" and "Attitude Towards Interprofessional Education" were used. Data were analyzed using SPSS software.

Results: More than 90% of the participants had a good attitude towards teamwork and IPE. There was no significant relationship between work experience and attitude towards teamwork ($P = 0.15$), but there was a significant and inverse relationship between work experience and attitudes about interprofessional learning ($r = -0.43$, $P = 0.007$). Those working in non-governmental jobs showed a better attitude towards teamwork and interprofessional learning ($P < 0.001$).

Conclusion: Determining the views of faculty members and graduates of Kerman University of Medical Sciences regarding IPE and its influencing factors is helpful for educational planning and development of educational programs in various fields. Also, for better planning, educational needs explained by these people should be considered. Planning and developing an educational program in this regard can lead to improving the quality of health services.

Keywords: Interprofessional Education, Interprofessional Teamwork, Perspective, Faculty Members, Graduates

Background

Health care and health-related services, due to their complex and extensive nature, require the use of skilled people in various fields. The treatment and health of the patient is a multifaceted phenomenon; therefore, a person with special expertise cannot be expected to do the entire process of recognizing and treating the disease. Careful patient care depends on a cohesive team of health care professionals, in which individual team abilities are developed in interaction with others (1). Teamwork in health brings positive outcomes for the patient when

the team members know each other and understand the mutual role (2). Therefore, in order to increase therapeutic and diagnostic efficiency, it is necessary to develop professional knowledge, in which all specialists are trained to work in professional teams (3). The skills required to perform duties in a professional team must be acquired during formal training (5, 4).

Inter-professional collaboration is of great benefit to patients and members of the treatment and care team and has become a necessity in training students. This seemingly obvious need for collaboration is often overlooked in the

training of health care professionals, both in their initial training and in their later careers. The current educational system in the fields related to care, diagnosis, and treatment, often with an emphasis on over-specialization, creates an obstacle to mutual cooperation (7, 6).

Interprofessional education (IPE) allows two or more professions to interact with each other and work together to improve mutual work and the quality of care (8). There are several practical and organizational barriers to IPE, including costs, planning, scheduling, adopting an appropriate approach to evaluate the results, resistance from administrative and organizational staff, etc.; however, one of the most important obstacles to cultural irreconcilability is the different professions that must work together (9).

Perhaps in this type of education, the mutual cooperation of faculty members from different fields, such as medicine, nursing, physiotherapy, nutrition, etc. will be used to educate students; however, it should be noted that each professor has been trained and worked in educational systems, in which IPE has not been used; thus, a paradox of using IPE as a tool to overcome differences and using such people for education arises (10). In developing countries, the three barriers of resource constraint, curriculum, and attitudes and stereotypes are significant (11).

Schmitt and Gilbert believe that there are many challenges to IPE, much of which depend on the socialization of professionals in different professions. Some of these challenges include attitudes toward other disciplines and professions and prejudice against one's own discipline and stereotypes about different professions. Some even believe that it is a kind of profession-centrism that exists among professionals who act like ethnocentrism; that is, experts in each field consider their field and profession superior to others (12).

Some studies on educational systems using interprofessional curricula have shown that the attitude of faculty members, physicians, and health care workers towards this method of education is one of the main challenges for its implementation (13). Various values and attitudes present among faculty members (such as rejection and understanding of members of other professional groups) are the major obstacle to interprofessional education and learning. Farra et al. concluded that in developing countries in the Middle East and North Africa, there are significant challenges to IPE and interprofessional teamwork. One of the most important barriers in these countries is stereotypes and negative interprofessional attitudes. Some medical disciplines in these countries are considered to be more important and superior stereotypes than others; thus, the role of students, faculty, and staff in other health care disciplines is not considered. Lack of familiarity of faculty members and graduates with the interprofessional concept and its requirements, prerequisites, and goals is another challenge for using IPE in countries where this method of education is currently used (14).

Objectives

The main objectives of the present study were to investigate the attitudes of faculty members and graduates of Kerman University of Medical Sciences towards interprofessional work and IPE, identify the characteristics of faculty and graduates that can influence their views on IPE and interprofessional teamwork, and also identify their needs for IPE and interprofessional teamwork.

Methods

This cross-sectional and descriptive-analytical survey was conducted on 348 faculty members and graduates of various fields of medical sciences from October to February 2017.

The sample size was calculated based on the Morgan table.

In the present study, faculty members and medical staff in medical fields (general and specialized), nursing, midwifery, and other paramedical professions (occupational therapy, physiotherapy, etc.) were selected by quota sampling. Accordingly, the list of people employed in the mentioned fields and by type of employment was obtained from Kerman University of Medical Sciences, Social Security, and other medical centers, such as military hospitals, etc. samples were selected based on the number of people in each group and the sample size. Inclusion criteria included graduation at the time of the study, employment, and willingness to participate in the study.

The research tool was a multi-part questionnaire. The first part included demographic information, such as age, gender, field and place of work (public, private, or both), and work experience. The second part was the Attitudes Toward Health Care Teams Scale by Heinemann et al. (15) and the Attitudes Toward Interprofessional Learning Scale by Parsell and Bligh (16).

Attitudes Toward Interprofessional Learning Scale: This scale was first designed by Parsell and Bligh in 1999 with 19 questions and is scored on a five-point-Likert scale (totally agree to totally disagree) and scores are ranged from 1 to 5 with a total score from 19 to 95 (16). The reliability of the questionnaire was assessed by Parsell et al. using Cronbach's alpha coefficient and obtained 0.90 and its validity was evaluated by experts in various fields (17). Since then, many researchers have used this questionnaire to conduct their research (18). This scale is also standardized in Persian (19). Cronbach's alpha coefficient for the scale in the present study was 0.71.

Attitudes Toward Health Care Teams Scale: This scale was first developed by Heinemann et al. and consisted of 21 items scoring on a six-point Likert scale from totally agree to totally disagree with scores ranging from zero to 5. A higher score indicates a more positive attitude (15). This questionnaire was first translated and translated back by two people fluent in English and Persian. The validity of the questionnaire was assessed using content and face validity methods. This scale was provided to 10 experts in medical education working in different therapeutic fields and they were asked to comment on the appearance

and meaning of the options and their appropriateness, and then in a meeting, these comments were applied in the questionnaires [content validity ratio (CVR = 0.83), content validity index (CVI)=0.89].

In order to evaluate the reliability of the questionnaire, the test-retest method and the determination of internal correlation were used. Accordingly, the questionnaires were distributed among 30 people involved in education from different disciplines. They were asked to repeat their identities for retesting by assigning a two-digit code and an English letter. Cronbach's alpha coefficient was confirmed ($\alpha = 0.81$). The reliability of the scale through the test-retest method and intraclass correlation coefficient (ICC) was significant (0.86) of $P < 0.05$.

Given that part of the present study was related to the need assessment of IPE, a 15-item questionnaire was designed based on the opinions of faculty members, familiar with the topics of medical education. Some items are listed below.

- Adding some aspects of the skills of each field to the curriculum of all related fields
- Using teaching by skilled students in each field to students in other fields
- Basic training of teachers in each field to get acquainted with IPE
- Strengthening the decision-making skills of students in each field

The questionnaire was rated on a Likert scale from "not necessary at all" to "absolutely necessary" and scores ranged from 1 to 6. The validity and reliability of the questionnaire were confirmed. In order to determine the reliability of the questionnaire, the internal correlation method was used and the obtained Cronbach's alpha coefficient was 0.92. To determine the validity, face validity method (CVR = 0.71 and CVI = 0.76).

In the end, 3 questions were asked about the attitude towards the position of physicians in the treatment team. In this regard, some key items that address the leadership role of physicians were examined.

- The doctor has the right to change the treatment plan provided by the care team
- The final decision should always be made by a doctor
- The doctor is legally responsible for the treatment
- The questions were answered on a five-point Likert scale (from totally agree to totally disagree) and the scores for the items ranged from 1 to 5. To determine the validity of the questions, the qualitative face validity method was used and the experts identified the questions in accordance with the objectives. The internal reliability method was used to measure reliability and Cronbach's alpha coefficient was 0.731.

All data were analyzed by measures of central tendency and dispersion using t-test, ANOVA, and Pearson correlation test by SPSS software version 19 (version 19, SPSS Inc., Chicago, IL).

Results

Of a total of 381 participants, 61% were female and 39% were male. The mean age of participants was 39.90 ± 10.66 years. Those working in medicine accounted for 39.7% of the respondents and the field of about 8.6% was the pharmacy, 29.9% nursing, 6.9% midwifery, and 14.9% paramedical fields. Of the total participants, 21.6% were faculty members and 48.9% working in non-governmental medical jobs and the rest were working in governmental therapeutic jobs. In more than 90% of the samples, there was a good attitude towards teamwork and IPE.

The mean scores of attitudes towards interprofessional teamwork, IPE, and needs assessment for IPE based on the characteristics of the respondents are shown in Table 1.

Table 1. Mean scores of attitudes towards teamwork, interprofessional learning, and needs assessment for interprofessional education based on participants' characteristics

Variable		Attitude towards teamwork		Attitudes about interprofessional learning		Needs assessment for interprofessional education	
		Mean \pm SD	P-value	Mean \pm SD	P-value	Mean \pm SD	P-value
Gender	Female	76.51 \pm 5.47	0.55	75.70 \pm 5.57	0.300	62.73 \pm 5.65	0.04
	Male	76.28 \pm 6.02		70.64 \pm 6.36		61.36 \pm 6.48	
Field of study	Medicine	76.09 \pm 5.98	0.68	70.74 \pm 6.50	0.100	62.26 \pm 5.31	0.77
	Pharmacy	76.13 \pm 4.88		71.34 \pm 3.85		62.64 \pm 6.8	
	Nursing	72.26 \pm 6.14		69.41 \pm 6.60		62.64 \pm 6.8	
	Midwifery	78.09 \pm 3.37		72.77 \pm 3.61		61.79 \pm 5.19	
	Paramedical	77.23 \pm 5.83		71.80 \pm 4.69		63.38 \pm 6.45	
Occupation	Faculty	74.78 \pm 7.49	0.001	69.89 \pm 8.53	0.001	61.62 \pm 7.44	0.51
	Governmental jobs	75.35 \pm 6.67		68.56 \pm 6.33		62.09 \pm 5.87	
	Non-governmental jobs	77.84 \pm 3.50		72.40 \pm 3.41		62.57 \pm 5.38	
Work experience	Less than 5 years	77.28 \pm 3.97	0.15	72.10 \pm 4.12	0.01	62.62 \pm 5.40	0.40
	5-10 years	75.75 \pm 6.28		69.15 \pm 5.91		61.15 \pm 5.31	
	10-15 years	76.41 \pm 6.94		70.44 \pm 7.67		62.44 \pm 6.99	
	Over 15 years	76.60 \pm 6.09		70.16 \pm 6.38		62.09 \pm 6.62	

The results of one-way ANOVA showed that there was a significant difference between attitudes toward teamwork in terms of job status; that is, attitudes were different in different occupational groups. This difference was observed between faculty members and those with non-governmental jobs as well as between those with governmental jobs and non-governmental jobs ($P = 0.001$).

Based on the results of the one-way ANOVA, the length of work experience can affect attitudes toward interprofessional learning and lead to different results ($P = 0.001$).

In women, there was greater agreement on the need for educational change in line with IPE. There was no significant relationship between age ($P = 0.191$) and interprofessional learning ($P = 0.170$) with the attitude towards teamwork.

The relationships between attitudes towards interprofessional teamwork, attitudes towards IPE, and educational needs assessments for IPE are shown in Table 2.

The relationship between key items of physicians' leadership role and demographic variables was assessed, which was discussed below.

There was no significant difference between men and women in agreeing with the statement "the doctor has the right to change the treatment plan provided by the care team". Pearson correlation showed no significant relationship between this item and the age of the respondents ($r = 0.02$). The results of one-way ANOVA showed that there was a significant difference between this item and the field of study ($P = 0.001$). Based on the results of this test, a significant difference was observed between the attitudes of different occupational groups towards this item (physician has the right to change the treatment plan provided by the care team). This difference was significant between faculty members and those with non-governmental jobs as well as between those with governmental jobs and non-governmental jobs ($P = 0.02$). Those with non-governmental jobs showed higher agreement with this statement. Those with different work experience showed different levels of agreement with this statement. This difference was observed between groups with 5 to 10 years of experience with those with 10 to 15 years, and also between those with 10 to 15 years of experience and more than 15 years. In both comparisons, individuals with 10 to 15 years of work experience scored

higher on average ($P = 0.003$).

The results showed that the mean score of the item "the doctor should always make the final decision" did not differ by gender. Also, no significant relationship was observed between this item and the age of the participants. The results of one-way ANOVA showed that different fields of study did not differ in terms of response to this item. Based on the test, different occupational groups had different attitudes toward this item. This difference can be seen between faculty members and those with non-governmental jobs as well as between those with governmental jobs and non-governmental jobs ($P = 0.001$). Faculty members were more likely to agree with this item than those with governmental jobs and those with non-governmental jobs. The results of one-way ANOVA showed that the group with less than 5 years of experience and those with 1 to 15 years of experience on one side (the group with 10 to 15 years of experience agreed more), and also those with less than 5 years of experience and the group with more than 15 years of experience (the group with more than 15 years of experience had higher agreement) in terms of agreement with this item had a significant difference ($P = 0.01$).

The results of the t-test showed that there was no significant difference between men and women in terms of responding to the item "physician is legally responsible for treatment". Pearson correlation test showed that the relationship between this item and the age of the respondents was not significant ($r = 0.15$). Based on the results of the one-way ANOVA test, no significant difference was observed between the different fields in terms of response to this item.

The results of one-way ANOVA showed that there was no significant difference between different jobs and work experience in terms of agreement with this item.

Discussion

IPE is one of the new educational methods, which its efficiency has been confirmed in various studies. This educational approach can be effective in improving the quality of patient care (5). In the present study, more than 90% of the participants had a good attitude towards teamwork and IPE and there was no difference in the positive attitude towards the need for teamwork and IPE between different fields of study.

Table 2. Relationship between attitudes toward interprofessional teamwork, interprofessional learning, and educational needs assessment for interprofessional education

	Number	Correlation coefficient	p-value
The relationship between attitudes toward interprofessional teamwork and attitudes toward interprofessional education	336	0.652	0.001
The relationship between attitudes toward interprofessional teamwork and needs assessment for interprofessional education	336	0.399	0.001
The relationship between attitudes in toward interprofessional education and needs assessment for interprofessional education	336	0.526	0.001

Also, there was no significant relationship between work experience and attitude towards teamwork. Those with non-governmental jobs had a better attitude towards teamwork and interprofessional learning. Most non-physician subjects believed that it is up to the physician to lead the team and make the final decision.

The ability of medical staff to work together as a team is very important in improving performance and reducing errors, but in some studies, nurses complained that doctors did not consult them (20). In fact, it seems that some members of the team are not interested in agreeing with other members. In another study, 22.1% of physicians were reluctant to discuss the situation of their patients with nurses and 36.0% did not believe in asking nurses for advice on medical issues. In a study conducted by Jasemi et al., although 0.78% of the nurses considered the interaction with the physicians to be satisfactory, about half of them stated that the physicians did not consult them about the patients (21). The reason for the difference in attitude in different researches, apart from the conditions of implementation, can also be due to the time of the present study. In recent years, with the development of the field of medical education, in which a large number of physicians and other medical professionals are trained as postgraduates, attitudes about teamwork and IPE have improved. Barrere and Ellis emphasized that the attitude of individuals is one of the factors influencing interprofessional communication, which can be influenced by education and familiarity with this factor (22).

In the present study, there was no significant relationship between work experience and attitude towards teamwork, but there was a significant inverse relationship between attitudes toward interprofessional learning and work experience. In some studies, the work experience was not effective in attitudes toward teamwork (11), whereas, in some others, the duration of work experience affects the person's attitude. This finding is also observed in the research by Barrere and Ellis indicating changing attitudes over time (22). Another study examined the relationship between work experience and the attitudes of physicians and nurses toward interprofessional collaboration and concluded that physicians with more work experience had a more positive attitude toward interprofessional collaboration; however, opposite results were obtained in nurses so that by increasing work experience, they gained a more unfavorable attitude toward interprofessional collaboration (23).

The reason for this difference in various studies can be due to the fact that at the beginning of work, there is insufficient attention and knowledge about the importance and position of medical jobs in other related professions, which can be adjusted by passing time and more familiarity with the work of other professions. Some studies on creating a negative attitude of nurses towards interprofessional cooperation over time have shown that not paying attention to the role of nurses and the views of the medical system or society lead to a negative attitude among nurses (21). It seems that encouraging medical staff to study medical education as a postgraduate course

can be very effective in bringing these perspectives closer together.

According to Jasemi et al., gender was effective in attitudes toward teamwork and women had more positive attitudes than men (21); whereas in the present study, gender was not associated with attitudes toward interprofessional teamwork and IPE. However, among women, there was a higher agreement on the need for educational changes in line with IPE. Curran et al. reported that gender was an effective factor in the attitude of faculty members (24). Various studies have not provided a reason for the better attitude of women in this field, but it may be due to their greater desire to experience newer cases in their careers. Further qualitative further studies are recommended to indicate the reason.

Because faculty members have different preferences for IPE based on their personal characteristics or field of specialization, planning at the national level should be done to obtain a synergistic effect regarding IPE. Professors should also be confident in their knowledge and ability to facilitate different groups of interprofessional learners. The university should help empower professors in this field through the process of developing in-service training programs.

One of the most important challenges in IPE is the role of physicians in their work network and other members of the clinicians. The existing values and attitudes of students in different fields are an important obstacle to using this method of education (9). This relationship is defined in some societies as a pyramid of power and in some societies, based on complementary roles (24).

In order to examine the attitudes of individuals toward IPE, some key items that address the leadership role of physicians were examined. Interestingly, there was no significant relationship between individuals' field of study and attitudes toward the considered items. In fact, some non-physician subjects believed that it was the physician who led the team and made the final decision. Another interesting point was that the faculty members agreed more with the first two items than the others. The existence of this view, which can be interpreted in relation to the power pyramid in clinicians, makes physicians prevent from interacting properly with other members of the treatment group. On the other hand, other people, believing that the final decision is made by the doctor, do not make much effort to change their position as an active member in the treatment of patients.

The work experience of the respondents also showed an interesting relationship with these items. People with 10 to 15 years of work experience were more agreed with these views. This suggests that work experience and gaining experience or better job opportunities can lead to higher self-esteem.

Similar studies have shown that although in many cases, nurses valued their profession, they indicated the great importance of physicians in leading the treatment team (21). This may be due to a comprehensive ability of physicians, or the view that diagnosis and treatment are

the only issues that matter to patients. In Iran, because medicine, pharmacy, and paramedical fields are educated separately, this may be more pronounced.

According to the role theory, in healthcare professional teams, there is a traditional hierarchy of roles headed by physicians (9). The findings of the present study also showed that different occupations believe in the special role of the physicians in the management of the treatment team.

It has been shown that the barriers to IPE, in addition to structural and organizational conflicts, organizational support, specializations in college, and different assessment methods and learning needs are associated with changes in people's attitudes toward IPE, for example, prejudices and stereotypes (13).

Although university faculty members were expected to have a more positive attitude toward teamwork, in the present study, it was observed that employees working in the private sector had a better attitude about teamwork. In addition, teachers had a better attitude toward interprofessional learning. This observation should be highly considered because it seems that the not so positive view of the people in charge of education and are expected to have more positive views in this regard, can disrupt IPE. Therefore, it is strongly recommended that planners and administrators of educational issues consider factors affecting IPE, such as an emphasis on learning theories, changes in teachers' attitudes, and teaching the benefits of this method to educators.

To achieve these goals, like any other educational approach, special and principled attention should be paid to the theoretical foundations and factors affecting the teaching-learning processes. Jafaei Dalooei et al. examined the pros and cons of this issue and emphasized that a change in the educational approach to interprofessional learning could lead to better performance (25). Studies have shown that there is still a limited understanding of the effectiveness of IPE, which is due to two factors: "heterogeneity of IPE interventions and methodological limitations of IPE studies" (26).

It should be noted that the norms and general cultures of the educational environment are very important in shaping future values and attitudes. Therefore, paying attention to correcting attitudes towards IPE hidden curriculum is crucial.

Barriers to IPE initiation can be examined at different levels of the organization, and in addition to the cases mentioned above, decision-making at intermediate and macro levels should also be considered. These include medical universities, the Ministry of Health, and the government cabinet, which understand the value of IPE and the sense of commitment to its implementation, such as providing resources.

Conclusion

According to the results of the present study, despite the need for IPE and a positive attitude towards teamwork and IPE, it seems that solutions are considered to make

the graduates of each field more familiar with the role of other fields in the care team. Changes in training programs in each field with emphasis on IPE and in-service training courses with an emphasis on the role of each member of the medical staff will enable them to play an effective professional role and improve the quality of patient care with more cooperation.

Supplementary Material

Supplementary material(s) is available here [To read supplementary materials, please refer to the journal website and open http://sdme.kmu.ac.ir/jufile?ar_sfile=804440].

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