

## Evaluation of Cultural Competencies of Students at School of Rehabilitation Sciences, Shiraz University of Medical Sciences, Shiraz, Iran

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### Original Article

#### Abstract

**Introduction:** Cultural competence is an important component for rehabilitation students as they have a particular job position in health centers in dealing with people of different cultures. The purpose of this study is to assess the cultural competencies of students at the School of Rehabilitation Sciences at Shiraz University of Medical Sciences, Shiraz, Iran.

**Materials and Methods:** The present study was quantitative in terms of nature, applied in terms of objective, and descriptive-survey in terms of data collection. The statistical population of this study included all the students of the School of Rehabilitation Sciences, Shiraz University of Medical Sciences. There were 350 students studying at this school in 2018, 184 of whom were selected using stratified sampling method using Cochran formula. The data was collected using Standard Cultural Competence Questionnaire. The validity of the questionnaire was confirmed by the professors and experts and its reliability was approved using Cranach's alpha of 0.871. For data analysis, correlation test, single sample t-test, and repeated measures analysis of variance (ANOVA) test were used to compare the mean of cultural competence dimensions.

**Results:** Cultural competencies amongst the students were in a good condition. This means that the merits of cultural knowledge and cultural sensitivity were above the average level and the merit of cultural skills was at a moderate level. Moreover, the competency in cultural skills was the dominant competency among the students of Rehabilitation Sciences of Shiraz University of Medical Sciences. Another finding of this study regarding the prioritization of these competencies also showed that cultural skills were the most important and cultural sensitivity was the least important in terms of ranking.

**Conclusion:** It is imperative that the medical practitioners take the necessary measures to increase the cultural competence of the students of the rehabilitation sciences by organizing workshops to promote students' cultural competency.

**Keywords:** Cultural competency; Knowledge competency; Skill competency

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#### Introduction

For thousands of years, the land of Iran, with its rich civilization, has been the scene of various events and changes, which has embraced different ethnic groups with different cultures. Conceptually, culture can be defined as values, norms, and traditions that affect how individuals know, think, interact, behave, and make decisions about the world (1). In another definition, culture is a complex set that includes cognition, beliefs, arts, ethics, law, customs, and other abilities or habits that a person acquires as a member of society (2). Accordingly, culture is a whole interweaving of

knowledge, art, ethics, law, customs, and any abilities and habits that are acquired by man as a member of society and are manifested in his behaviors (3). Since culture affects many aspects of human life, there is no doubt that it also plays an important role in shaping the behaviors, beliefs, and health values of individuals (4).

Following the massive influx of migrants to Europe, health systems have called for a response to this phenomenon (5), and in the wake of this challenge, attention has shifted to the potential positive effects of medical staff on immigrant well-being and cultural competence among medical staff and the community

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(6). In Iran, as in other countries, the phenomenon of migration from rural to urban and from smaller cities to metropolitan areas brings together people with different cultures, each with their own values and beliefs, and these values and beliefs lie at the heart of the society culture (7). Awareness of the importance and effects of experiences, beliefs, values, and behaviors is very important to pay attention to the cultural needs of clients in the field of health (8-11). Competence is seen as the input or output of individuals' behavior. In most countries, competency is considered as an output. Thus, employees in different fields demonstrate competencies to the extent that they meet work requirements or standards (10). The emergence of different cultures and the subsequent change in our country, diversity and multiplicity of culture, race, ethnicity, religion, and language is one of the most obvious phenomena that along with the creation of valuable opportunities and capabilities, necessitates acquiring a series of skills and cultural competencies for individuals in society.

Today, cultural competence is one of the most important and influential factors and plays a significant role in relation to people in society. Historically, the concept first appeared in the United States in the 1980s, emphasizing improved interactions between health professionals and immigrants from non-English speaking countries (12). Currently, fierce competition and technological change are putting a lot of pressure on organizations and their diverse methods to increase the productivity of their workforce. Organizational workforce is now expected to have a greater impact on the products and services they provide, and this has led to cultural competence becoming important in different settings (13). Cultural competence, as an essential component of professionalism, has a unique place in the field of medical sciences due to the cultural diversity of clients (14). Since hospitals and health centers are places that deal with different segments of society with different attitudes and cultures, it is essential that health care workers have the ability to communicate effectively with clients. However, it is obvious that today, in addition to health centers and hospitals, educational centers such as schools and universities also deal with a large number of people with different cultures, traditions, and customs. In the meantime, students as the only effective element of the educational environment in interaction with peers, faculty members, and staff are faced with different customs and cultures, which makes the need for cultural competencies for students more than ever. Cultural competence does not exist inherently in individuals, but can be learned through learning processes (15). Today, the issue of cultural competence is a fundamental and important issue in medical

education (16).

Acquiring cultural competencies for students, in addition to the effectiveness of curriculum levels such as formal and secret curricula, will also improve the quality of education and teaching for students. Accordingly, in recent years, much attention has been paid to cultural competencies among students (17). Cultural competence is a broad concept that is used to describe a variety of strategies designed to improve access to and effectiveness of health care for individuals of different ethnicities, races, and groups (18). Additionally, students' cultural competence is their understanding of the values, beliefs, and educational practices in relation to each of the students, professors, and other staff in the educational space, which leads to their satisfaction and positive results in education and enhanced learning; because enhanced learning requires useful communication with all faculty, peers, and staff (19,20). At the beginning of the third millennium, the acquisition of cultural competencies is so important that it is stated that cultural competencies should be considered as part of the curriculum and education in universities, and most importantly, cultural competency training should be mandatory in all health education fields (21). In line with the present study, studies have been conducted domestically and abroad, which are mentioned below.

In a study conducted with the aim of evaluating the cultural competence of nurses, Bastami et al. concluded that there was a moderate level of cultural competence among nurses. Therefore, due to the importance of culture in health and social relationships, planning to promote the cultural competence of nurses was necessary (22). In a study aimed at investigating the relationship between cultural competence, health, and social support with the attitudes of people in the northwest of the country towards organ donation with the mediating role of moral courage, Kani et al. found that strengthening cultural competence, social health, social support, and moral courage through individual and group training can increase the positive attitude of individuals towards organ donation and meet the need for organ transplantation (23). The results of the study by Khanbabayi Gol et al. with the aim of examining the cultural competence of the senior nursing students of medical universities in north-west Iran showed that the cultural competence of nursing students was at the level of cultural knowledge (24).

Cruz et al. reported in their study that the ability to teach and guide nursing professors to display appropriate cultural behaviors scored the highest competence score; while the ability to discuss the differences between patients' health beliefs and behaviors and nursing knowledge with each patient

was very weak. Moreover, there was a difference between cultural skills between students from different countries. Among the effective factors in acquiring cultural competencies in the country are place of residence, gender, age, year of study, attending cultural education, experience of caring for patients from various cultural backgrounds and patients belonging to specific groups of the population, and living in a multicultural environment (18).

In a study aimed at identifying intercultural competencies to internationalize students, Dearthoff identified three main dimensions including knowledge, needs, and skills. The knowledge dimension included cultural awareness, different characteristics of adaptation and cultural knowledge, and deep understanding, and cultural knowledge included the context, role, and impact of the culture and worldview of others, information about a particular culture, and knowledge of linguistics (25).

In their study, Klein et al. examined the effect of intercultural competence on business in France and Germany, citing three dimensions of “cognitive competence, emotional competence, and behavioral skills” as effective competencies for business (26). In his study aimed at examining the perceptions of cultural competence in health care, Leishman reported that individuals and groups had relatively little knowledge of different groups and cultures, and one of the causes of this relatively weak knowledge was the nurses’ lack of attention to the concept of cultural competence (27).

Given the above, it is obvious that today a large part of learning of rehabilitation science students is formed in the form of their interaction and communication with students, professors, and education staff. Because these people have their own customs, culture, and ideas, communicating effectively with them requires students to acquire a range of skills called cultural competencies. By acquiring cultural competencies, students of rehabilitation sciences can establish effective communication with other students, professors, and teaching staff, which in addition to increasing emotional and social skills, will play an important role in improving their learning and teaching process. Therefore, the present study is important for several reasons. The first is that the subject is new in its kind. Second, students’ knowledge of the extent to which they acquire cultural competencies enables them to achieve the necessary self-awareness in relation to these competencies. The third reason is that the awareness of the level of cultural competencies of students by the authorities and staff

of higher education, leads them to take the necessary measures to increase the competencies of students. Therefore, the present study is performed with the objective to assess the cultural competencies of students of the School of Rehabilitation Sciences, Shiraz University of Medical Sciences, Shiraz, Iran. In this regard, minor objectives have been pursued in the study, including evaluation of cultural knowledge among students of the School of Rehabilitation Sciences, evaluation of cultural sensitivity among students of the School of Rehabilitation Sciences, evaluation of cultural skills among students of the School of Rehabilitation Sciences, and determining the dominant cultural competencies of students of the School of Rehabilitation Sciences.

### Materials and Methods

This study was applied in terms of purpose and descriptive-survey in terms of method. Sampling was performed by simple stratified method and the study tool was the cultural competence questionnaire. The statistical population of the study consisted of all students of the School of Rehabilitation Sciences of Shiraz University of Medical Sciences ( $n = 350$ ) in 2019, of whom 183 were determined as the sample size using the Cochran formula. Finally, using simple stratified sampling method, 99 (53.8%) male students and 85 (46.2%) female students were selected. The data collection tool was the standard questionnaire proposed by Watson and Friend consisting of 20 items in three components including cultural knowledge (6 items), cultural sensitivity (2 items), and cultural skills (12 items) with a five-point Likert scale (very high, high, moderate, low, very low) with scoring from very low (score 1) to very high (score 5). The validity of the original version of the questionnaire was confirmed by experts and its reliability was calculated by Cronbach’s alpha coefficient of 0.87 (28). In the present study, the face and content validity of the questionnaire was confirmed using a group of experts. Furthermore, to determine the validity of the questionnaire, Spearman’s correlation coefficient item-by-item analysis was employed; thus, the correlation of each item of the questionnaire dimensions was calculated with the total score obtained from that dimension and items that were not at a good level of significant correlation were removed from the questionnaire. According to the statistical calculations, the reliability and validity of the questionnaire were at a desirable level. Cronbach’s alpha coefficient was used to evaluate the reliability.

**Table 1.** Descriptive statistics of cultural competence variables

Cultural variable	Minimum	Maximum	Mean $\pm$ SD	skewness	Kurtosis	Skewness
Knowledge	13	27	19.74 $\pm$ 3.56	0.003		-0.927
Sensitivity	2	10	6.55 $\pm$ 2.09	-0.169		1.141
Skills	18	54	35.53 $\pm$ 8.55	0.022		-0.499

SD: Standard deviation

In order to determine the reliability of the present study, Cronbach's alpha coefficient method was used as Equation 1, in which  $r_{\alpha}$ ,  $j$ ,  $S^2$ , and  $s_j^2$  are the value of Cronbach's alpha, number of items, variance of the total scores of each respondent, and variance of scores for  $j$ -th item, respectively.

$$\text{Relation 1} \quad r_{\alpha} = \frac{j}{j-1} \left( 1 - \frac{\sum_{j=1}^n s_j^2}{S^2} \right)$$

In the inferential statistics section, correlation tests, t-test, and repeated measures analysis of variance (ANOVA) were used to compare the mean scores of dimensions of cultural competence. Finally, the data were analyzed in SPSS software (version 25, IBM Corporation, Armonk, NY, USA).

## Results

Descriptive statistics on the dimensions of cultural competence are presented in table 1. Given this table, the highest and lowest mean values were respectively related to the cultural skills dimension and cultural sensitivity dimension. Based on the data, because the amount of kurtosis and skewness of all variables is between -2 to +2, all variables follow a statistically normal distribution.

The correlation matrix between the dimensions of cultural competence, which is based on Pearson correlation, is shown in table 2. There was a significantly positive relationship between the dimensions of cultural competence at the significance level of 0.01. Accordingly, the highest correlation was found between the cultural skills dimension and the cultural sensitivity dimension (0.72) at the significance level of 0.01 and the lowest correlation between the cultural knowledge dimension and the cultural sensitivity dimension (0.49) at the significance level of 0.01.

Question 1: What is the cultural knowledge level of the students of the School of Rehabilitation Sciences? Given the value of  $t$  obtained in degrees of freedom of 183, it was found that the mean of cultural knowledge of students of the School of Rehabilitation Sciences of

Shiraz University of Medical Sciences was higher than the standard mean (3) and a significant difference was observed between students' cultural knowledge and the standard mean at level 0.001. (Table 3). Therefore, it can be claimed that students of the School of Rehabilitation Sciences of Shiraz University of Medical Sciences have above-average cultural knowledge.

**Table 2.** Correlation matrix between dimensions of cultural competence

Variable	1	2	3
Cultural knowledge	1		
Cultural sensitivity	0.49**	1	
Cultural skills	0.59**	0.72**	1

\* $P < 0.05$ , \*\* $P < 0.01$ 

Question 2: What is the cultural sensitivity level of the students of the School of Rehabilitation Sciences?

Given the  $t$  obtained in the degrees of freedom 183, it was found that the mean of cultural sensitivity of students in the School of Rehabilitation Sciences of Shiraz University of Medical Sciences was higher than the standard mean (3) and there was a significant difference between students' cultural sensitivity and the standard mean at the level of 0.001 (Table 3). Therefore, students of the School of Rehabilitation Sciences of Shiraz University of Medical Sciences had above-average cultural sensitivity.

Question 3: What is the cultural skill level of the students of the School of Rehabilitation Sciences? According to  $t$  obtained in degrees of freedom of 183, the data showed that the mean cultural skills of students in the School of Rehabilitation Sciences of Shiraz University of Medical Sciences did not differ from the standard mean (3) and there was not a significant difference between students' cultural skills and the standard mean (3) at the level of 0.001 (Table 3). Therefore, it can be said that students of the School of Rehabilitation Sciences of Shiraz University of Medical Sciences have an average cultural skills level.

**Table 3.** Difference between the dimensions of cultural knowledge, cultural sensitivity, and cultural skills of the cultural competence variable with the mean level using t test

Dimension	Mean $\pm$ SD	t-statistic	degree of freedom	P	Mean difference	Standard mean
Cultural knowledge	3.29 $\pm$ 0.59	6.63	183	0.001	0.29	3
Cultural sensitivity	3.27 $\pm$ 1.04	3.56	183	0.001	0.27	3
Cultural skills	2.96 $\pm$ 0.71	-0.74	183	0.460	-0.03	3

SD: Standard deviation

**Table 4.** Test between cultural competence variables

Model	Test type	Type III sums of squares	Degree of freedom	Mean square	F statistic	P
Dimensions of cultural competence	Sphericity Assumed	77491.120	2	38745.560	2008.751	0.001
	Greenhouse-Geisser	77491.120	1.160	66794.635	2008.751	0.001
	Huynh-Feldt	77491.120	1.163	6663.787	2008.751	0.001
	Lowe-bound	77491.120	1	77491.120	2008.751	0.001

Question 4: What are the dominant cultural competencies of the students of the School of Rehabilitation Sciences?

Given that the Mauchly's Sphericity Test value (0.27) was obtained with a degree of freedom of 2 at the level of 0.001, so the assumption of sphericity did not hold (covariances of dimensions were not equal). Therefore, intra-group test was used with adjustment of degrees of freedom.

The results of repeated measures ANOVA analysis indicated that given the Greenhouse-Geisser test, the value of F in degree of freedom 2 was significant at the level of 0.001. In Huynh-Feldt test, the value of F in degree of freedom 2 was obtained at the level of 0.001 (Table 4). Therefore, from the perspective of rehabilitation school students, there was a significant difference between the importance of the three dimensions of cultural competence.

Since the significance level of the Greenhouse-Geisser test was 0.001, it can be declared that there was a significant difference between the dimensions of cultural competence at the test level of 0.95 (Table 4). As a result, the post hoc test is employed to obtain the dominant style.

The results of the Bonferoni post hoc test of the cultural competence dimensions variable are presented in table 5. The mean difference between the cultural knowledge and cultural sensitivity is a positive value, suggesting that students' cultural knowledge was more than their cultural sensitivity. Additionally, the difference between the mean cultural knowledge and cultural skills was a negative value, indicating that students' cultural skills were higher than their cultural knowledge. The result of the mean difference between the cultural sensitivity and cultural skill was also a negative value which showed that the students' cultural skills were higher than their cultural sensitivity.

The results of the Bonferoni post hoc test for pairwise comparison of the importance of the

dimensions of cultural competence revealed that from the perspective of the rehabilitation school students, there was a significant difference between the mean importance of cultural knowledge with cultural sensitivity, cultural knowledge with cultural skills, and cultural sensitivity with cultural skills. Therefore, the predominant style of students was cultural skill style, followed by cultural knowledge and finally, cultural sensitivity.

### Discussion

Today, medical students in general and rehabilitation students in particular, depending on the nature of their job, deal with different segments of society from different cultures and behaviors.

Obviously, proper communication with individuals from different customs and beliefs requires the acquisition of cultural competencies by rehabilitation students. Accordingly, the purpose of this study was to assess the cultural competencies of students of the School of Rehabilitation Sciences of Shiraz University of Medical Sciences. The findings suggested that cultural competencies among students of the School of Rehabilitation Sciences of Shiraz University of Medical Sciences were in a favorable situation. The results related to the cultural knowledge component among the students of the School of Rehabilitation Sciences of Shiraz University of Medical Sciences stated that this component was in a higher condition than the desired level. With the anticipation of geographical changes in the not-too-distant future, and the importance of paying attention to ethnic/racial differences in the field of health and health care, cultural competence is of great importance (27). The results of the studies of Bastami et al. (22) and Cruz et al. (18) were consistent with the findings of the present study, but the findings of the study by Green et al. (29) were inconsistent with those of the present study.

**Table 5.** Bonferoni post hoc test for pairwise comparison of dimensions of variable of cultural competencies

Dimensions of cultural competencies	Comparative dimensions	Mean differences (i-j)	Standard deviation error	P
Cultural knowledge	1.160	66794.635	2008.751	0.001
	1.163	6663.787	2008.751	0.001
Cultural sensitivity	1	77491.120	2008.751	0.001

In their study, students reported that cultural readiness and skills in caring for patients with different cultural diversity seemed to increase with education; because senior students show sufficient preparation and skills in many important aspects of cultural mutual care (29). Moreover, research results in the United States have shown that using education can increase students' cultural competence (30). Therefore, it can be argued that education and experience can lead to the promotion of students' cultural knowledge.

The findings of the present study in connection with the second question showed that the component of cultural sensitivity among students of the School of Rehabilitation Sciences of Shiraz University of Medical Sciences was in a situation above average. In this regard, the results of the studies by Bastami et al. (22) and Cruz et al. (18) were in line with the findings of the present study, but the results of the study by Leishman (27) contradicted the findings of the current study.

The results of the present study regarding the third question indicated that the component of cultural skills among students of the School of Rehabilitation Sciences of Shiraz University of Medical Sciences was in a moderate position. The results of Bastami et al. (22) and Cruz et al. (18) were similar to the findings of the present study in this regard, however the results of Leishman's study on cultural competence perspectives in health care (27) were not in agreement with the findings of the present study. He concluded that cultural knowledge was at a low level in different cultural groups of the country, including nurses. Therefore, it was necessary to take the necessary measures to promote this competency, which could be fulfilled using the potential of curricula and training programs (27). In this regard, cultural competencies should be considered as part of the university curriculum (21). Kani et al. reported in their study that it was better to determine the reason for the increase in this competency among students and then take the necessary measures to increase other cultural competencies among students (23), which was consistent with the results of the present study. Awareness, desire, knowledge, and cultural sensitivity and exposure have been identified as preconditions for cultural competence. What is crucial in maintaining cultural competence is the capacity of caregivers for a higher level of moral reasoning that can be achieved through formal training in cultural and moral knowledge (31).

Another finding of the present study in relation to the prioritization of these competencies showed that cultural skills and cultural sensitivity were respectively

the most important and the least important in terms of ranking. Therefore, officials and other educational stakeholders can hold training and cultural competency courses based on the importance of each of these components.

In a general sense, cultural competence can be considered as a practical framework for addressing ethnic and racial inequalities in health care (32). One of the important issues in this regard is that lack of cultural competence leads to more diseases among patients, which can be prevented by improving the level of cultural competence and cultural interaction between patients and physicians (33).

### Limitations

One of the most important limitations of the present study was the lack of proper cooperation of students to complete the questionnaire.

### Recommendations

It is suggested that medical schools help promote their cultural competence by holding cultural competency courses and workshops for students of different faculties, as well as using the potential of the curriculum and including cultural competencies in the curriculum.

### Conclusion

In general, it can be stated that due to the multicultural society of Iran and the need to acquire cultural skills for students to communicate effectively with clients in medical facilities, it is necessary for educational administrators and planners to take action to enhance students' cultural competencies.

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### Authors' Contribution

Maryam Shafiei-Sarvestani: Study design and ideation, attracting financial resources for the study, supportive, executive, and scientific study services, providing study equipment and samples, analysis and interpretation of results, specialized statistics services, specialized evaluation of the manuscript in terms of scientific concepts, final manuscript approval to be submitted to the journal office, the responsibility to maintain the integrity of the study process from the beginning to the publication, and responding to the referees'

comments; Elham Jahani: Study design and ideation, attracting financial resources for the study, supportive, executive, and scientific study services, providing study equipment and samples, data collection, analysis and interpretation of results, specialized statistics services, manuscript preparation, specialized evaluation of the manuscript in terms of scientific concepts, final manuscript approval to be submitted to the journal office, the responsibility to maintain the integrity of the study process from the beginning to the publication, and responding to the referees' comments.

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### Conflict of Interest

The authors declare no conflict of interest.

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