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Social health among Iranian medical students during COVID-19 pandemic

Maryam Baradaran Binazir[*] , **Fariba Heidari**

Social Determinants of Health Research Center, Health Management and Safety Promotion Research Institute, Tabriz University of Medical Sciences, Tabriz, Iran

Abstract

Background: It has been experienced that the COVID-19 pandemic affects students' physical and psychological health as well as their mortality risk; therefore, during the COVID-19 pandemic, it is crucial to recognize that medical students' social health is more important than ever before.

Methods: This cross-sectional study was conducted on medical students at preclinical and clinical training levels. The population of the study included medical students of the faculty of medicine at Tabriz University of Medical Sciences, Iran. We used the Raosoft sample size calculator. This study was conducted using an online Standardized questionnaire of "Keyes's Social Well-being" and a demographic scale in the Persian language from the 5th to 29th of October, 2020. We applied the Mann-Whitney test to compare mean scores concerning gender, marital status, level of education, and residence. P value<0.05 was considered statistically significant.

Results: The current study involved 242 female and 118 male medical students with average ages of 22.54 (SD$=2.41$) and 22.48 (SD$=2.36$) respectively. The majority of participants (294) were single; more than half of them (204) lived in the dormitory. The participants had an average social health score of 84.21 (SD$=8.34$), indicated a low level of social health in this study. Moreover, we found that social health score was associated with education level, residence, gender, and marital status ($P<0.05$).

Conclusion: During the COVID-19 pandemic, it is crucial to provide medical students with appropriate social health programs to improve their quality of life and increase their achievement.

Introduction

The COVID-19 pandemic is a continuous pandemic of coronavirus disease 2019 (COVID-19) due to the transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in humans.[1] It was first identified in Wuhan, China in December 2019.[2] COVID-19 affects various individuals in different ways. The pandemic has affected the entire population. Medical students were among those most affected by the pandemic. Therefore, it may negatively affect medical students' communication skills and social health.[3] An individual's health consists of three pillars: physical health, mental health, and social health.[4] The concept of social health has acquired attention among these three, and it has been taken into account both in learning circles and in administrative settings.[5] An individual's social health can be described as their judgment and perception of themselves, their ability to function within

an organization, and their status in communication with other human beings and public groups.[6] The index of social health provides us with measurable facts concerning this issue. It is certainly important to focus on the social health of students as the major axis of advancement in planning.[7] The institutions of higher education should not only provide training to students and prepare them for accepting competent responsibilities, but also take preventive measures to ensure a healthy, exciting, and friendly environment for their students, consistent with educational, public, domestic, and actual opinions and ideas.[8] Unfortunately, during the COVID-19 pandemic, emotional, psychological, and social challenges have risen and caused concern among students, and university improvement has been hindered by some unexpected experiences, such as suicidal attempts, addiction, and educational failures.[3] There were some studies about students' social health before the COVID-19

*Corresponding author: Maryam Baradaran-Binazir, Email: maryam_baradaran@hotmail.com

pandemic.[9] Nikvarz and Yazdanpanah conducted a study to evaluate the social health of students, which reported no significant relationship between their social health and their mothers' remarrying, gender, and their marital status.[10] Rezaie et al demonstrated a significant relationship between communication abilities, faithful opinions, socio-economic position, and social health, but showed no significant relationship between the way of leisure spending time and social health.[11] In the investigation on social blooming, Babapour Kheiroddin et al showed that mentally healthy individuals had optimistic views on subjects associated with social health and their expectations. However, unhealthy individuals were hopeless toward these subjects.[12]

During the COVID-19 pandemic, medical education had several challenges, often related to the students and cultural fields, education and research, management, administration, and economic affairs.[13] In addition to the closure of universities, these centers were required to enact rules for decreasing COVID-19 transmissions.[14] To support the health of students and teachers, the use of numerous computer programs and applications increased.[13] These challenges could affect the social health of medical students because they limit their communication.[15]

Because of COVID-19, social health has been affected by quarantine and lockdowns.[16] It has been experienced that the COVID-19 pandemic affects students' physical and psychological health as well as their mortality risk; therefore, during the COVID-19 pandemic, it is crucial to recognize that medical students' social health is more important than ever before.[17] To our knowledge, there has been no recent study assessing the social health of medical students. Therefore, this study was conducted to investigate social health status and factors related among Iranian students of medical sciences during the COVID-19 pandemic using anonymous online survey. It would urge university officials and policymakers take effective preventive measures to make medical students mentally and socially well-prepared for future pandemics. It is hoped that the data collected now will provide a basis for developing effective preventative measures for dealing with future pandemics.

Materials and Methods

The cross-sectional study was conducted on medical students at preclinical and clinical training levels. The population of the study included medical students of the faculty of medicine at Tabriz University of Medical Sciences, Iran. Preclinical and clinical students are defined as 1-4th and 5-7th-year medical students, respectively. The potential confounding factor was psychological disease controlled by excluding students who experienced mental disorders, treated with antidepressants or antipsychotic drugs. We used the Raosoft sample size calculator.[18] A sample size of 363 was calculated with a margin of error of

5%, a confidence level of 99%, an estimated population of 800, and a response distribution of 50%. Random number generator software was used to select students from the list and phone numbers provided by the deputy dean for education at Tabriz Faculty of Medicine.[19] In this study, we endeavored to achieve statistical fit in the proportional distributions of the population based on the total number of students at each level of preclinical and clinical training. Selected students were requested to participate by sending them the questionnaire link via the short message service to get their responses. This study was conducted using an online Standardized questionnaire of "Keyes's Social Well-being" and a demographic scale in the Persian language from the 5th to 29th of October, 2020It was voluntary to participate in this study and all information was confidential and anonymous. The questionnaire was based on a 5-point scale including strongly agree, agree, neutral, disagree, and strongly disagree scored 5 to 1, respectively.[20] Accordingly, the maximum and minimum total score was 165 and 33, respectively. According to accessible cut points, scores between 33-88, 89-143, and 144-165 indicated low, average, and high levels of social health, respectively. Construct validity and reliability of the Persian version of Keyes's Social Well-being were approved by Sharbatian. Cronbach's alpha for 5 subscales of the questionnaire including Social Integration, Social Acceptance, Social Contribution, Social Coherence, and Social Actualization were 0.86, 0.66, 0.78, 0.85 and 0.91, respectively.[21] The data were analyzed using SPSS software, version 16. The scores' normal distribution was not verified using the Kolmogorov–Smirnov test. Consequently, we applied the Mann-Whitney test to compare mean scores concerning gender, marital status, level of education, and residence. P value < 0.05 was considered statistically significant.

Results

In the current study, 242 female and 118 male medical students participated with an average age of 22.54 (SD = 2.41). Most of the participants (294) were single, and more than half of them (204) lived in the Dormitory. The average social health score of all participants was 84.21 (SD = 8.34), which shows that they had a low level of social health. Besides 67.5%, 25.2%, and 7.3% of students had low, average, and high levels of social health, respectively. The mean score of social health according to demographic characteristics is shown in Table 1 which shows significant differences between male and female students in terms of overall social health scores ($P > 0.05$). Moreover, there was a significant difference between married and single students in terms of overall social health score ($P > 0.05$).

The overall social health score of students living in their parents' homes was significantly different from those living in a dormitory ($P = 0.023$). Additionally significant difference was found in the study between students based

Table 1. Differences in total score of social health according to demographics, using Mann-Whitney test (N = 360)

Variables	Characteristic	No. (%)	Total score (Mean ± SD) Range: 0-132	U*	Levels of social health
Gender	Male	118(32.8)	75.86 ± 7.95	5478**	Low
	Female	242(67.2)	70.16 ± 6.85		Low
Marital status	Married	66(18.4)	89.84 ± 7.12	3622**	Average
	Single	294(81.6)	81.74 ± 8.82		Low
Level of education	Pre-clinical	190(52.3)	81.42 ± 5.73	6781**	Low
	Clinical	170(47.7)	91.64 ± 6.91		Average
The place of residence	Parents' homes	156(43.4)	87.53 ± 7.98	6647**	Low
	Dormitory	204(56.6)	81.71 ± 6.73		Low

* Mann-Whitney U value, ** Significant at level of $P < 0.05$.

on their educational levels ($P = 0.003$).

Discussion

This current study aimed to investigate social health and factors related among Iranian medical students during the COVID-19 pandemic. The range of social health score of the students was 52-134 and the mean score of social health was 84.21 (SD = 8.34), indicating that mainly the students' social health score was low. The mean score of social health of students in the study conducted by Darabinia et al in 2016 before the Covid-19 pandemic was 92.99 (SD = 7.54).[22] Perhaps, this lower social health score was due to changing conditions during the COVID-19 pandemic. As a result of the COVID-19 pandemic, health, social, and economic problems changed. Since this pandemic, the world's social systems and social health have been disrupted even more seriously than the First and Second World Wars. Many professions, medicine, and medical education have undergone changes that have resulted in numerous demands on social health.[23] We found that education level, residence, and marital status were associated with social health scores. Additionally, the male students had higher social health scores than female students and there was a statistically significant relationship between social health score and gender. The study by Darabinia et al demonstrated that place of residence was related to the social health of Iranian medical students. Darabinia et al reported that the mean score of social health of dormitory students is higher than that of the students living with their families.[22] However, we found the mean social health score of students who lived in their parents' homes was significantly higher than that of students living in dormitories. Perhaps, this was because of the COVID-19 pandemic restrictions. Dormitories were locked down and most students returned to their parents' homes. Possibly that is why the social health of students living in their parents' homes is higher than that of the students living in dormitories. It was demonstrated that the living environment paves the way for the development of capabilities in various

public, financial, and educational areas in students and helps promote them, and accordingly improves mental and social health.[24] The mean of the total score of social health of married students was higher than that of single students' mean. The results of the study by Lee indicated that married students had higher social health than single students as in our study.[25] The relationship between marital status and mental health has been established in other studies because marriage builds a variety of appropriate beliefs toward social issues. In this manner, it supports social health by fulfilling various demands, building a sense of responsibility, and making a system of balanced connections.[26] There were significant differences between the social health scores of female and male students. Similar to our study results, the study by Lee showed a significant relationship between gender and social health.[26] Perhaps this was a result of fewer social limits imposed on male students than on females. In this way, male students can participate in a wide range of fields regardless of their gender. They can regard themselves as valuable members of the community and progress.[22] Additionally, the study found preclinical students had lower social health scores than clinical students. Preclinical students' educational program had been changed during the COVID-19 pandemic. Because of the closure of educational institutes, e-learning was used to deliver training courses to preclinical medical students.[18] It has been reported in a recent study that Iran's e-learning structure encounters difficulties in eight dimensions: the sociocultural dimension was one of the most significant aspects that may affect students' social health.[27] However, it appears that the educational programs for clinical students have not changed significantly, and they have continued to learn and practice medicine following their training programs. Therefore, undoubtedly, the prohibitory events have adversely affected the social health of the preclinical medical students more than that of the clinical students. The current study had some limitations. First, we could not control cultural differences among students. Second, perhaps some of the students did not complete the questionnaire carefully. Third, since the study was conducted in a single university, it has limitations in terms of generalizability. Therefore, we recommend that investigations on this issue be conducted at different medical universities in Iran to find out more about medical students' social health to promote their health.

Conclusion

The social health of medical students was at a low level during the COVID-19 pandemic. Social health overall score indicated a significant relationship with marital status, place of residence, gender, and educational level of students. The study demonstrated the impact of marriage on the improvement of social health. Therefore, the

importance of social health, demands that appropriate programs, such as arranging for medical students to marry successfully, be implemented.

In future studies, we recommend collecting data at a variety of time points to examine changes in social health during pandemics. Furthermore, merely the students of the Tabriz University of Medical Sciences participated in the current study. Therefore, future study with a larger sample size is required to better understand the effects of COVID-19 on students throughout the country.

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