



# The Views of Medical Faculty Students in Turkey Concerning the COVID-19 Pandemic

Servet Aker<sup>1</sup> · Özlem Mıdık<sup>1</sup>

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## Abstract

The aim of this study was to elicit the views of medical faculty students regarding the COVID-19 pandemic. This descriptive study was performed with Ondokuz Mayıs University Medical Faculty students on 24–27 March, 2020. The Medical Faculty currently has 2051 students. A questionnaire was used as a data collection tool. For that purpose, the authors designed a questionnaire specifically for this research via the “Google Forms” web. This consisted of 40 open- and close-ended questions. The questionnaire was completed by 1375 (67.1%) students. Accordingly, 52.4% of medical students reported feeling mentally unwell. Although 50.8% of medical students reported generally/usually obtaining information about COVID-19 through the social media, 82.0% did not trust information/messages arriving through the social media and WhatsApp. We found that 86.7% of students regarded frequent hand washing as the most important means of protection against COVID-19, and 19.3% of students did not regard the COVID-19 pandemic as a severe public health problem for Turkey at that moment. In addition, 61.6% of students stated that a suppression strategy involving tight restrictions need to be applied to being the pandemic under control in Turkey. Use can be made of medical students in the transmission of accurate information during the COVID-19 pandemic. Students can be excellent activists on these subjects in countries in which medical education is suspended. Measures therefore need to be taken concerning the transmission of up to date and accurate information to medical students.

**Keywords** COVID-19 · Pandemic · Medical student · Turkey

## Background

Corona virus disease (COVID-19) is an infectious disease caused by a newly discovered corona virus. The World Health Organization (WHO) China Country Office was informed of cases of pneumonia of unknown etiology detected in Wuhan City in the Hubei Province of China on 31 December, 2019. The Chinese authorities identified a new type of corona virus, which was isolated on 7 January 2020 [1]. The WHO declared a ‘global emergency’ on 30 January, 2020. When the organization made that declaration, Corona virus had infected more than 7,700 people in 31 regions, of whom 170 had died [2]. The disease then began spreading rapidly across the world in February.

The first case of COVID-19 in Turkey was detected on 10 March 2020, and the first death occurred on 17 March 2020 [3]. Educational activities in all universities were temporarily suspended on 16th March 2020. Teaching in medical faculties was also suspended [3]. On 26 March, 2020, the Turkish Higher Education Council decided that education in universities would be carried out via distance and digital learning, and that no face-to-face instruction was to take place [4]. Education in medical faculties in Turkey is currently confined to digital instruction and distance learning.

The aim of this study was to determine the views of medical faculty students regarding the COVID-19 pandemic.

## Materials and Methods

This descriptive study was performed with Ondokuz Mayıs University (OMU) Medical Faculty students on 24–27 March, 2020. At the time of the study, 86 days had elapsed

✉ Servet Aker  
servetaker@gmail.com

<sup>1</sup> Department of Medical Education, Faculty of Medicine, Ondokuz Mayıs University, 551080 Samsun, Turkey

since the first case of COVID-19 in China, and 14 since the first case in Turkey.

The OMU Medical Faculty began teaching in 1975 in Samsun, the largest and most populous city in the Black Sea region of Turkey. The city has a population of approximately 1.35 million. The Medical Faculty currently has 2051 students.

Medical education at the OMU Medical faculty was suspended on 16 March, 2020. All medical students, including interns, were told not to attend school, but to return to their families. Students in years 1 to 5 began receiving theoretic instruction via Google Classroom on 30 March, 2020 [5].

A questionnaire was used as a data collection tool. For that purpose, the authors designed a questionnaire specifically for this research via the “Google Forms” web. This consisted of 40 open- and close-ended questions. Students were informed about the study and asked to complete the questionnaire through the university web site, the student affairs office, and smart phone WhatsApp groups. The questionnaires were completed online. Each participant had the right to complete the questionnaire once. An informative text appeared at the top of the questionnaire. Consent was obtained in the form of students stating that they were volunteering to complete the questionnaire. Data analysis was performed on Statistical Package for the Social Sciences (SPSS) software (Version 13.0; SPSS, Inc., Chicago, IL). Data were expressed as mean  $\pm$  standard deviation and number (percentage).

The study was approved by the ethics committee of the Ondokuz Mayıs University Clinical Research Ethics Commission.

## Results

The questionnaire was completed by 1375 (67.1%) students. The highest rate of participation was among second-year students (94.3%), and the lowest among sixth-year students (43.7%). Women represented 53.5% of the students, and participants' mean age was  $21.44 \pm 2.02$  years (min = 18 max = 35).

Of our participants, 80.9% reported currently living with their families, while 2.8% were in student accommodation. In addition, 18.4% felt in a physically poor state and 52.4% in a mentally poor one. Moreover, 53.2% of students reported that at least one individual where they were currently living was in the high risk group for COVID-19.

Additionally, 50.8% of students reported usually obtaining their information about COVID-19 from the social media (Facebook, Twitter, Instagram etc...), and 23.9% from the television; 47.8% of students reported watching new stories about COVID-19 for 1–3 h a day, and 4.8% for more than 6 h. Asked “Do you have a web site you continually or regularly monitor concerning COVID-19?” students most frequently cited the Turkish Minister of Health Twitter account (5.3%) and the Health Ministry web site (4.5%). The World Health Organization, Worldometers and BBC web sites were the most popular among international sources web. Interestingly, 82.0% of students reported distrusting information/messages from the social media and WhatsApp.

Students' access to reliable web sites concerning the COVID-19 pandemic in the previous week is shown in Table 1.

Students' level of agreement with various propositions concerning COVID-19 is shown in Table 2.

Together with the questionnaire, students were also given a brief statement prepared by the authors based on the existing literature concerning the strategies can apply concerning the COVID-19 pandemic [6]. At the end of the text, students were asked which strategy Turkey should apply. A suppression strategy was recommended by 61.6% of students (lowest in the first year at 51.9%, and highest in the sixth year at 68.4%), while 24.9% recommended a mitigation strategy (lowest in the fourth year at 20.9% and highest in the first year at 26.6%), and 2.1% of students stated that nothing should be done (highest in the sixth year at 7.8%), and 22.1% were undecided (highest in the first year at 18.4%).

The responses given by students to the open-ended question concerning what they were most curious about regarding the COVID-19 pandemic are summarized in Table 3. This question was answered by 54.6% (751) of students. Students' ideas concerning internet use on subjects related to health are shown in Table 4.

**Table 1** Students' access to reliable information about the COVID-19 pandemic

Within the previous week ...	n = 1375	%
... Visiting the Health Ministry website	888	64.6
... Visiting the World Health Organization website	698	50.8
... Searching for a scientific paper about COVID-19 on any scientific database	600	43.7
... Reading any scientific paper about COVID-19	514	37.4
... Visiting the Turkish Medical Association website	271	19.7
... Visiting the websites of any of the professional medical associations (infectious diseases specialists, public health specialists, etc.)	235	17.1

**Table 2** Student agreement with various propositions concerning COVID-19

	I agree	
	n = 1375	%
Educating society about COVID-19 is important to prevent the spread of the disease	1357	98.7
Hand washing is the most important means of protection against COVID-19	1192	86.7
Drugs such as hydroxychloroquine and favipiravir are used in the treatment of COVID-19	566	41.2
COVID-19 was spread by people eating bats in China	518	37.7
I believe that COVID-19 is not currently a serious health problem	265	19.3
The medical problems of people infected with COVID-19 will improve over time and no special treatment is needed	48	3.5

**Table 3** Subjects about which students were most interested concerning the COVID-19 pandemic

	n	%
When and how the pandemic will come to an end	322	42.9
The epidemiology of the disease	84	11.2
Treatment of the disease	54	7.2
When life will return to normal	53	7.1
How the pandemic will affect education	34	4.5
Whether or not the precautions take are sufficient or beneficial	32	4.3
When a vaccine will be found	27	3.6
Whether the disease will leave physical damage behind it	26	3.5
What life/the world/Turkey will be like after the pandemic	25	3.3
How it is transmitted	18	2.4
How the clinical course progresses	17	2.7
Whether or not the virus will mutate	14	1.9
Whether or not the number of cases announced reflects the actual reality	12	1.6
How the disease affects the young	10	1.3
The virology	9	1.2
Whether anxieties related to the family will arise	8	1.1
Whether immunity will develop after the disease	6	0.8
Total	751	100.0

**Table 4** Students' opinions regarding internet use for health-related matters

	I agree	
	n = 1375	%
I can distinguish high quality resources from low quality ones on the internet	908	66.0
I know how to find useful health-related resources online	905	65.8
I know how to use the internet to find answers to my questions	892	64.9
I possess the skills I need to evaluate the resources I find online	859	62.5
I trust myself regarding using online information when taking health-related decisions	840	61.1
I know which health resources are available online	725	52.7
I know where to find useful health resources online	719	52.3

We observed that 41.7% of students very frequently discussed information about the COVID-19 pandemic with their families, 47.5% frequently, and 1.4% very rarely.

In this study, 50.3% of students stated that they were reluctant to receive education in a place where COVID-19 patients were treated, and 47.9% of year 4, 5, and 6

students were unwilling to perform internships there. In addition, 68.1% of students reported wishing to receive distance learning on the subject of COVID-19 and pandemic management (lowest among first-year students as 61.9%, and highest in sixth-year students at 86.5%).

## Discussion

Although this study cannot be generalized to all medical students, it represents the first sampling on the subject. The COVID-19 pandemic is the most serious threat to public health both globally and in Turkey in recent years. The pandemic is having a major impact on communities and health workers. Health workers are exposed to particular stress due to their intense work tempo, uncertainties over the epidemiology and treatment of the disease, fear, and the application of very strict infection control protocols. Medical students are also living through extraordinary times. Their education was interrupted, and they began experiencing an intense fear caused by uncertainty. While this was happening, they returned to their families and were obliged to evaluate information from very different sources and share this with those with whom they were in contact.

This study found that more than half of medical students felt mentally unwell. Such pandemics are generally accompanied by a state of panic, particular when much is unknown concerning the disease. Studies of medical students during different corona virus outbreaks have determined high levels of anxiety [7–9]. The present study is compatible with the previous literature. Programs aimed at strengthening the mental states of health workers therefore need to be established during pandemics. The results of this study were notified to the Medical Faculty Psychiatry Department, and it was decided that ‘COVID-19 and Mental Health’ presentations should be included in students’ distance education programs.

Students generally employ the social media as a source of information. However, in addition to accurate information, unconfirmed information intended to misinform can also be rapidly disseminated via the social media. Students in this study reported mistrusting information from the social media and WhatsApp. It appears that students make frequent use of Health Ministry and WHO web sites. Other studies have also reported that medical faculty students make widespread use of the social media [10]. One study reported that physician and medical students obtained the majority of their information regarding COVID-19 through the social media [11]. This finding is particularly important in terms of showing that institution and other bodies wishing to send messages to young people in particular need to make more effective use of the social media. It is therefore important for all official governmental health authorities to make more active use of their social media accounts and to rapidly update information concerning COVID-19.

In terms of students’ reactions to propositions concerning the COVID-19 pandemic, they generally regarded the

pandemic as a public health problem, and felt that social education was important if the pandemic was to be brought under control. One previous study reported that health workers did not possess sufficient information concerning COVID-19 [11]. In another study reported that a high level of COVID-19 related knowledge and self-reported preventive behaviors and moderate risk perception among Iranian medical students [12]. We therefore think that efforts need to be made to ensure that health personnel and medical students have access to accurate information. An education module concerning COVID-19 has therefore been established and added to the distant learning program for our students by our faculty’s Public Health Department.

We found that 37.7% of students agreed with the proposition that “COVID-19 was spread by people eating bats in China” Various sources have warned against misinformation concerning COVID-19 that might lead to xenophobia [13]. Such false information capable of resulting in xenophobia in the community may be more widespread among medical students. Governments therefore need to take special care.

What students most wished to know about the pandemic was when and how it would be brought to an end. Other subjects of interest to students included the epidemiology of the disease and its treatment. These responses are important in terms of reflecting students’ anxieties for the future. It is therefore important for students to be given scientific predictions.

Students most agreed with the idea that a suppression strategy needed to be implemented in order to halt the pandemic. Agreement with that strategy increased with students’ seniority in terms of academic years. Medical students supported the ending of the pandemic through strict precautions. News from China regarding the disease process and information that the pandemic had been brought under control may have been responsible for the popularity of this idea among students.

Students did not regard themselves as very proficient in terms of accessing reliable sources of information. Some previous studies have reported that medical students have low levels of electronic health literacy [14]. Students’ opinions in the present study may derive from their own lack of proficiency, or also from a lack of self-confidence. We think that this needs to be re-evaluated in further studies.

Almost all students reported frequently sharing information about COVID-19 with their families. This is important in showing the role of medical students in communicating accurate health-related information to their families. Medical training may therefore be regarded as an opportunity to engage in social education during the pandemic.

## Conclusion

This study indicates that medical students felt in a poor mental state during the COVID-19 pandemic, that they generally acquired information about the pandemic via the social media, that they regarded the pandemic as a public health problem, that they believed that a suppression strategy involving various restrictions was required to halt the pandemic, and that the subject of the greatest concern to them was when and how the pandemic would come to an end.

Use can be made of medical students in the transmission of accurate information during the COVID-19 pandemic. Students can be excellent activists on these subjects in countries in which medical education is suspended. Measures therefore need to be taken concerning the transmission of up to date and accurate information to medical students.

**Author contributions** All authors contributed to the study conception and design. All authors read and approved the final manuscript. SA: study design, data collection, statistics, results interpretation, writing the manuscript ÖM: study design, data collection, results interpretation, reviewing the manuscript.

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## Compliance with Ethical Standards

**Conflict of interest** No conflict of interest was declared by the authors.

**Ethical Approval** Ethics committee approval was received for his study.

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