Original Article

Faculty of health sciences students' knowledge and attitudes toward coronavirus disease 2019 during the first wave of the pandemic: A cross-sectional survey

ABSTRACT

Objective: The study aimed to determine the faculty of the health sciences students' knowledge and attitudes regarding the coronavirus disease 2019 (COVID-19) pandemic.

Materials and Methods: This cross-sectional survey was completed with 317 undergraduate students of one health sciences faculty in Turkey. The data were collected between March 1, 2020, and March 15, 2020, by face-to-face interviews using a questionnaire created by the researchers. Number, percentage, mean, standard deviation, and Pearson *Chi*-square test were used to evaluate the data.

Results: In this study, a high proportion of students answered questions about COVID-19 correctly. About 55.8% of the students took partial precautions against COVID-19 to protect themselves against COVID-19 and "frequent washing of hands" was the most common precaution. We determined that the main reasons for not taking any precautions against COVID-19 were "low number of cases in Turkey" and "getting irritated by the mask." About 98.4% of the participants were entirely/partially following the news on COVID-19, with social media being the most commonly used medium. Female students took more protective measures than male students. The 1st-year students had more positive thoughts about vaccination compared to those in the other classes.

Conclusions: Although the knowledge of the students about COVID-19 was good in the first wave of the pandemic, more than half of the students stated that they partially complied with the protective measures.

Keywords: Attitude, COVID-19, knowledge, pandemic, student

INTRODUCTION

First appeared in Wuhan city of China's Hubei province on December 31, 2019, coronavirus disease 2019 (COVID-19) was caused by severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) rapidly affected the whole world.[1,2] The negative impact of COVID-19, declared as a pandemic by The World Health Organization in Turkey, began with the appearance of the first positive cases on March 11, 2020. SARS-CoV-2 is one of the significant pathogens targeting the respiratory system, and is associated with systemic and respiratory symptoms.[3-5] COVID-19 is transmitted mainly by droplets but can also be transmitted by touching the mouth, nose, or eyes with contaminated hands after contact with surfaces contaminated by the droplets

Melek Ertürk YAVUZ[1], Bahar Candaş ALTINBAŞ[2], Didem SARIMEHMET[3], Ayla GÜRSOY[4], Cansel ÖZEL[5]

[1]Department of Surgical Nursing, Faculty of Health Sciences, Artvin Çoruh University, Artvin, Turkey; [2]Department of Surgical Nursing, Faculty of Health Sciences, Karadeniz Technical University, Trabzon, Turkey; [3]Department of Medical Services and Techniques, Vocational School of Health Sciences, Karadeniz Technical University, Trabzon, Turkey; [4]Department of Surgical Nursing, Faculty of Health Sciences, Antalya Bilim University, Antalya, Turkey; [5]Neonatal Intensive Care Unit, Elazığ Medikalpark Hospital, Elazığ, Turkey

Address for correspondence: Ayla GÜRSOY, Faculty of Health Sciences, Antalya Bilim University, Çıplaklı District, Akdeniz Street, No: 290, 07190, Antalya, Turkey.
E-mail: aylagursoy68@gmail.com

Access this article online	
Website: www.journalin.org	**Quick Response Code**
DOI: 10.4103/jin.jin_30_22	

How to cite this article: Yavuz ME, Altinbaş BC, Sarimehmet D, Gürsoy A, Özel C. Faculty of health sciences students' knowledge and attitudes toward coronavirus disease 2019 during the first wave of the pandemic: A cross-sectional survey. J Integr Nurs 2022;4:151-6.

emitted by infected individuals at close range by coughing and sneezing.[4]

Protecting oneself against the disease is the most rational and effective method of preventing the disease. Protection aims to prevent new cases and deaths, thereby controlling the pandemic.[6] The most efficient way to be protected from COVID-19 is avoiding exposure to the virus. People should wear masks correctly, wash their hands with soap and water for at least 20 s, maintain social distance (1.5 m), and avoid going into crowded areas to achieve this protection. Furthermore, precautions such as scrubbing communal locations (door handles, tables, laptops, etc.) with diluted bleach, not using shared items (towels, glasses, etc.), having a balanced diet, and following travel limitations are required.[5]

There are several studies to explore the virological characteristics and clinical outcomes of COVID-19. However, there are not enough studies focusing on the knowledge, perceived seriousness, and controllability of COVID-19 among individuals experiencing the pandemic.[5] As in most epidemics and pandemics, health-care workers are at the forefront of the fight against COVID-19. This is even more critical for health-care professionals, service providers, and prospective students. After graduation, health-care students will be the first to be in close contact with people affected by the virus. This proximity may increase their stress levels and interrupt their educational progress.[7]

Knowing the knowledge and attitudes of health sciences faculty students about COVID-19 will guide practices and plans for future pandemics. This knowledge will also provide an insight into the planning of in-service training for the students after they graduate. Furthermore, it is expected that the students of the faculty of health sciences will be more sensitive about protection from the disease during the pandemic.[8] The knowledge obtained from these students will help us to predict the approach of other segments of society to the subject.

The aim of our study is to determine the level of knowledge about COVID-19 and attitudes about the ways of protection of the students in the faculty of health sciences (nursing and nutrition and dietetics departments).

MATERIALS AND METHODS

Study design
This was a cross-sectional survey carried out during the COVID-19 pandemic between March 1, 2020, and March 15, 2020.

Participants
The population of the study consisted of nursing and nutrition and dietetics students ($n = 558$) studying at a health sciences faculty in Turkey. It was aimed to reach the entire population without employing certain sampling criteria. Students who were pretested during the data collection process did not agree to participate in the study, returned incomplete data forms, and could not be interviewed due to the interruption of face-to-face education were not included in the study. The study was thus conducted with a total of 317 students, reaching 56.8% of the population.

Instruments and procedure
The "Question Form" prepared by the researchers was used as a data collection tool in the study. The form consists of 17 questions. The first six questions were about demographic characteristics (age, gender, department, class, place of residence, and cohabitants). The remaining 11 questions were about COVID-19 (knowledge about COVID-19, whether they took precautions, measures taken, reasons for not being protected, etc.). Five experts evaluated the form for content validity. As a result of this evaluation, we made necessary revisions, and a pilot study was performed with ten students, who were excluded from the study. The study data were collected through face-to-face interviews. The questionnaires were distributed to the students by the researchers in the classroom environment. The interviews lasted for approximately 5–10 min. The forms were filled out by the students in the classroom environment.

Data analysis
The data obtained from the study were analyzed using the Statistical Package for the Social Scinces (SPSS) IBM version 21 software package, New York, America. Number, percentage, mean, standard deviation, and Pearson *Chi*-square test were used to evaluate the data.

Ethical considerations
Ethical approval was obtained from the Artvin Coruh University Scientific Research and Publication Ethics Committee (17.06.2020-E.6349), and institutional permission was taken from the relevant institution to conduct the study. No personal data (name, surname, student number, country) were obtained from the students, and participation in the survey was carried out voluntarily. All students were informed regarding the purposes of this survey and of their right to withdraw from it, and verbal consent was acquired from the students.

RESULTS

The mean age of the students was 20.8 ± 2.2 years. About 78.9% were female, 53.0% were nursing students, 41.3% were 2nd-year students, 56.5% stayed in a dormitory, and 88.3% lived with other students [Table 1].

About 55.8% of the participants stated that they partially complied with the measures to protect themselves from COVID-19. The distribution of the answers given by the health sciences faculty students to the questions about the COVID-19 pandemic is given in Table 2.

The most common measures students took were washing hands frequently (92.4%), not touching the mouth, nose, and eyes with dirty hands (90.6%), and not sharing personal items such as towels and glasses (83.8%). While 47.3% of the participants stated that they would get the COVID-19 vaccine when it is developed, 38.5% were indecisive [Table 3].

The main reasons for not taking precautions against COVID-19 among the students who stated that they did not take any precautions (*n* = 39, 12.3%) were the low number of cases in Turkey (87.2%) and being irritated by the mask (46.2%). Furthermore, "high cost of masks, hand disinfectants, and similar products to be used for prevention (30.8%) were among the main reasons for not taking precautions.

Table 1: Sociodemographic characteristics of the students

Characteristics	X̄±SD/*n* (%)
Age (years)	20.8±2.2
Gender	
Female	250 (78.9)
Male	67 (21.1)
Department	
Nursing	168 (53.0)
Nutrition and dietetics	149 (47.0)
Class	
First	72 (22.7)
Second	131 (41.3)
Third	114 (36.0)
Place of residence	
Dormitory	179 (56.5)
House/apartment	123 (38.8)
Guest houses	15 (4.7)
Cohabitants	
Other students	280 (88.3)
Single	22 (6.9)
Family	15 (4.8)

SD: Standard deviation

Table 2: Student's knowledge of coronavirus disease 2019

	Correct answer, *n* (%)	Wrong answer, *n* (%)	Unanswered, *n* (%)
Mortality rate	299 (94.3)	18 (5.7)	-
Incubation period	298 (94.0)	17 (5.4)	2 (0.6)
The most common symptoms	214 (67.5)	96 (30.3)	7 (2.2)
It is very contagious	297 (93.7)	17 (5.4)	3 (0.9)
Not the same as the flu	193 (60.9)	122 (38.5)	2 (0.6)

Students followed the news about COVID-19 (55.2%), 51.1% "partially" believed the news and 41.0% were "partially" afraid of the news [Table 4]. The students following or partially following the news on COVID-19 obtained knowledge mostly from social media (88.5%), television (75.6%), and people around them (48.3%). About 46.6% of the students expressed that they searched for news about COVID-19 on the Internet.

Table 5 shows the distribution of students' knowledge and attitudes about COVID-19 according to their sociodemographic characteristics.

DISCUSSION

There were many unanswered questions about COVID-19 early in the pandemic. People did not have enough knowledge on the subject yet. Still, we determined that the majority of the students gave correct answers to the questions on the pandemic. Since the COVID-19 pandemic is a serious public health problem that concerns the whole society, it is normal for students to have a high level of knowledge. Some studies in the literature have reported similar findings to our research,[7,9-11] whereas some others described low levels of knowledge about COVID-19.[12-14] This difference may be due to education differences about COVID-19 in different countries and variations in the opportunities and access to knowledge from sources such as social media.[15]

More than half of the students adopted "partial" measures to protect themselves against COVID-19, and about one-third took all the specified ones. In the systematic review of studies with physicians, health-care professionals, and the general population found that the attitude toward COVID-19 was positive in 82% of the studies.[16] Our finding is not consistent with the literature in this respect. Since we collected the data during the initial period of COVID-19, we believe that the students did not take adequate protective measures. Even if many people are aware of COVID-19, it may take time to transfer that knowledge into behavior.

Frequent washing of the hands with soap, not touching the mouth, nose, and eyes with dirty hands, and not using shared items were the most frequent measures and were frequently implemented. However, people did not follow precautions such as wearing masks and using hand disinfectants. According to the literature, frequent washing of hands, hand disinfectants and masks, and social isolation are the key measures to protect oneself against COVID-19.[9,13,14,17-20] While the rate of wearing masks was high in some studies,[18,21] another study has reported low rates, which is similar to our findings.[10,11,17,22] We believe that the reason why students did

Table 3: Student's attitude toward protection from coronavirus disease 2019 and precautions

Attitude	n (%)
Are you taking measures to protect yourself from COVID-19?	
Yes	101 (31.9)
Partially	177 (55.8)
No	39 (12.3)
What measures are you taking to protect yourself from COVID-19?*	
I wash my hands often	257 (92.4)
I do not touch my mouth, nose, or eyes with dirty hands	252 (90.6)
I do not share personal items such as towels, glasses, etc.	233 (83.8)
I use disposable wipes when coughing and sneezing	180 (64.7)
I pay attention to a balanced diet	159 (57.2)
I do not approach people closer than 2 meters	115 (41.4)
I try not to shake hands or hug people	114 (41.0)
I do not enter crowded environments	111 (39.9)
I use hand sanitizer	91 (32.7)
I wear a mask	39 (14.0)
Are you thinking about getting COVID-19 vaccination?	
Yes	150 (47.3)
I am indecisive	122 (38.5)
No	45 (14.2)

*More than one option could be selected. COVID-19: Coronavirus disease 2019

Table 4: Student's attitude toward news related to coronavirus disease 2019

	Yes, n (%)	Partially, n (%)	No, n (%)
Do you follow the news about COVID-19?	175 (55.2)	137 (43.2)	5 (1.6)
Do you believe that the news on COVID-19 is accurate?	139 (43.8)	162 (51.1)	16 (5.0)
Are you afraid of the news about COVID-19?	115 (36.3)	130 (41.0)	72 (22.7)

COVID-19: Coronavirus disease 2019

not take adequate protection measures was that we collected the study data during the early COVID-19 pandemic. Although most of the students had knowledge about COVID-19, it takes time to turn the knowledge into practice.

We determined that the students who did not take protective measures considered the number of cases in the country low. Besides, they felt that wearing masks irritated them and that the products to be used for protection were expensive, and hence, they did not take preventive measures. In similar studies, the reasons for not taking protective measures were lack of material, high cost, uncertainty about precautions, and not being able to get used to new conditions such as wearing a mask and staying at home.[16,22] Within the scope of COVID-19 measures, quarantine is imposed on anyone suspected of having come into contact with a case. Home visits are also restricted, and the 1.5 m social distance limit is suggested. These practices curtail the spread of the pandemic. In our study, students tend to adhere to rules that can prevent the spread of the pandemic. About half of the

students considered getting vaccinated when the COVID-19 vaccine becomes available. More than a third, on the other hand, were still undecided. The rate of considering getting vaccinated against COVID-19 was 92.4% in the study of Huynh *et al*.[23] and 86.2% in the study of Ikhlaq *et al*.,[24] both of which are higher than the finding in the present study. Various frightening theories about vaccines were spreading in Turkey, resulting in the minimal number of students considering immunization.

Almost all of the students (totally or partially) followed the news on COVID-19. More than three-quarters of the participants followed the social media and television news. In this study, social media was the primary source of knowledge as in similar studies, followed by television and the Internet.[9] The fact that the knowledge on social media is easy to access, cost-effective, and wide-ranging contributes to its use as the chief source of information. Half of the students partially believed the news about COVID-19, and the other half trusted the news completely. Almost half of the students were somewhat afraid of COVID-19 information, and more than a third were completely afraid. In the study of Roy *et al*.,[25] the participants experienced anxiety and fear. With the onset of COVID-19 cases, fake news has also appeared on social media and the Internet. Hence, the students view the news with suspicion and are partially afraid.

It was determined that female students took more precautions to protect themselves from COVID-19, believed more in the accuracy of the news about COVID-19, and were more afraid of such news. In line with the present study results, there is literature evidence that females take more precautions than men to protect themselves from COVID-19.[18,21,26,27] Studies on COVID-19 have reported higher anxiety levels for females. Again, in the same studies, a positive relationship was found between high anxiety and taking precautions against COVID-19.[10,18] We determined that the students of the nutrition and dietetics department took more precautions to protect themselves from COVID-19 and were more afraid of the news about COVID-19 than the students of the nursing department. The result obtained in our study is surprising since nursing students are more likely to encounter patients with COVID-19, they are expected to take more protective measures and be more afraid of the news about the pandemic. We determined that students' academic year did not affect their ability to apply protective measures and believe the news about COVID-19. However, 2nd-year students were less afraid of the news about COVID-19 compared to other classes, and the rate of considering getting vaccinated was less in these students. The COVID-19 pandemic was the first such experience for

Table 5: Distribution of knowledge and attitudes about coronavirus disease 2019 according to sociodemographic characteristics of students

Characteristics	Do you take precautions to protect against COVID-19?		Do you believe the news about COVID-19 is correct?		Are you afraid of the news about COVID-19?		Are you considering getting the COVID-19 vaccine?	
	Yes/partially	No	Yes/partially	No	Yes/partially	No	Yes	Indecisive/no
Gender								
Female	225 (90.0)	25 (10.0)	243 (97.2)	7 (2.8)	203 (81.2)	47 (18.8)	122 (48.8)	128 (51.2)
Male	53 (79.1)	14 (20.9)	58 (86.6)	9 (13.4)	42 (62.7)	25 (37.3)	28 (41.8)	39 (58.2)
Statistical analysis (P)	$\chi^{2*}=6.228, P=0.043$		$\chi^2=12.465, P<0.001$		$\chi^2=10.317, P=0.001$		$\chi^2=1.041, P=0.308$	
Department								
Nursing	137 (81.5)	31 (18.5)	156 (92.9)	12 (7.1)	120 (71.4)	48 (28.6)	79 (47.0)	89 (53.0)
Nutrition and diabetics	141 (94.6)	8 (5.4)	145 (97.3)	4 (2.7)	125 (83.9)	24 (16.1)	71 (47.7)	78 (52.3)
Statistical analysis (P)	$\chi^2=12.528, P=0.001$		$\chi^2=3.275, P=0.070$		$\chi^2=6.988, P=0.008$		$\chi^2=0.012, P=0.911$	
Class								
First	64 (88.9)	8 (11.1)	71 (98.6)	1 (1.4)	59 (81.9)	13 (18.1)	41 (56.9)	31 (43.1)
Second	114 (87.0)	17 (13.0)	125 (95.4)	6 (4.6)	92 (70.2)	39 (29.8)	50 (38.2)	81 (61.8)
Third	100 (87.0)	14 (12.3)	105 (92.1)	9 (7.9)	94 (82.5)	20 (17.5)	59 (51.8)	55 (48.2)
Statistical analysis (P)	$\chi^2=0.150, P=0.928$		$\chi^2=3.999, P=1.135$		$\chi^2=6.342, P=0.042$		$\chi^2=7.976, P=0.019$	

*χ^2=Pearson Chi-square. COVID-19: Coronavirus disease 2019

the students. Students had not been trained before related to this pandemic. For this reason, we can consider it normal that the students did not differ by their academic year in terms of taking protective measures and believing in the accuracy of the news. The differences of the 2nd-year students in certain topics may be related to their sociodemographic characteristics. Furthermore, we found that more than half of the 1st- and 3rd-year students and more than one-third of the 2nd-year students considered getting the COVID-19 vaccine, and the difference between these groups was statistically significant. In the literature, no research could be found to determine the relationship between class and the desire to be vaccinated. The desire to be vaccinated against COVID-19 will increase as the class level increases. The results of our study suggested that 2nd-year students' desire to be vaccinated against COVID-19 was lower because of their personal traits (age, experiences, culture, etc.).

Limitations of the study

The study has some limitations. One of them is that there were only two departments (nursing and nutrition and dietetics) in the faculty of health sciences where the study was conducted. Another limitation of the study was the inability to collect data from 4th-year students because face-to-face training was interrupted during the conduct of the study. Furthermore, the study only includes data for the beginning of the pandemic. It is a limitation that the research does not include data from different periods of the pandemic.

CONCLUSIONS

Based on the data obtained from students during the early period of COVID-19 in Turkey, the health sciences students have a high level of knowledge about the pandemic. More than half of them take partial precautions to prevent the disease. Students frequently wash their hands as part of protective measures and obtain knowledge about COVID-19, mostly from social media and television news. However, only about half of the students consider getting the COVID-19 vaccine when it becomes available. Pandemic-related topics should be added to the curriculum of health-care professionals. Appropriate education should be given with methods aimed at developing the desired behavior, especially regarding personal protection rules. Furthermore, we recommend conducting new studies to evaluate the changes in students in the course of the pandemic.

Acknowledgments

Financial support and sponsorship

Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Cheng HY, Li SY, Yang CH. Initial rapid and proactive response for the COVID-19 outbreak – Taiwan's experience. J Formos Med Assoc 2020;119:771-3.
2. Bajgain KT, Badal S, Bajgain BB, *et al*. Prevalence of comorbidities among individuals with COVID-19: A rapid review of current literature. Am J Infect Control 2021;49:238-46.
3. Rothan HA, Byrareddy SN. The epidemiology and pathogenesis of coronavirus disease (COVID-19) outbreak. J Autoimmun 2020;109:102433.

4.   Wu Z, McGoogan JM. Characteristics of and important lessons from the coronavirus disease 2019 (COVID-19) outbreak in China: Summary of a report of 72 314 cases from the Chinese center for disease control and prevention. JAMA 2020;323:1239-42.

5.   Adhikari SP, Meng S, Wu YJ, *et al.* Epidemiology, causes, clinical manifestation and diagnosis, prevention and control of coronavirus disease (COVID-19) during the early outbreak period: A scoping review. Infect Dis Poverty 2020;9:29.

6.   Baloran ET. Knowledge, attitudes, anxiety, and coping strategies of students during COVID-19 pandemic. J Loss Trauma 2020;25:635-42.

7.   Taghrir MH, Borazjani R, Shiraly R. COVID-19 and iranian medical students; A survey on their related-knowledge, preventive behaviors and risk perception. Arch Iran Med 2020;23:249-54.

8.   Stefanowicz-Bielska A, Słomion M, Stefanowicz J. COVID-19 pandemic-knowledge, attitudes, behaviours, and actions among faculty of health sciences students. Int J Environ Res Public Health 2021;18:12137.

9.   Alzoubi H, Alnawaiseh N, Al-Mnayyis A, Abu-Lubad M, Aqel A, Shagahin HA. COVID-19 – Knowledge, attitude and practice among medical and non-medical university students in Jordan. J Pure Appl Microbiol 2020;14:17-24.

10. Hamza MS, Badary OA, Elmazar MM. Cross-sectional study on awareness and knowledge of COVID-19 among senior pharmacy students. J Community Health 2021;46:139-46.

11. Khasawneh AI, Humeidan AA, Alsulaiman JW, *et al.* Medical Students and COVID-19: Knowledge, attitudes, and precautionary measures. A descriptive study from Jordan. Front Public Health 2020;8:253.

12. Salman M, Mustafa ZU, Asif N, *et al.* Knowledge, attitude and preventive practices related to COVID-19: A cross-sectional study in two Pakistani university populations. Drugs Ther Perspect 2020;36:319-25.

13. Neupane HC, Shrestha N, Adhikari S, *et al*. Knowledge of health care professionals and medical students regarding COVID-19 in a tertiary care hospital in Nepal. JNMA J Nepal Med Assoc 2020;58:480-6.

14. Gohel KH, Patel PB, Shah PM, *et al*. Knowledge and perceptions about COVID-19 among the medical and allied health science students in India: An online cross-sectional survey. Clin Epidemiol Glob Health 2021;9:104-9.

15. Kıssal A, Kavici S, Okan F, Avşar F. Health sciences students' knowledge, attitudes and behaviors about COVID-19: A review study. J High Educ Sci 2020;10:391-403.

16. Saadatjoo S, Miri M, Hassanipour S, Ameri H, Arab-Zozani M. Systematic review of the knowledge, attitudes, and practices of physicians, health workers, and the general population about Coronavirus disease 2019 (COVID-19). Medrxiv 2020. [Doi: 10.1101/2020.10.04.20206094v1]. [Preprint].

17. Maheshwari S, Gupta P, Sinha R, Rawat P. Knowledge, attitude, and practice towards coronavirus disease 2019 (COVID-19) among medical students: A cross-sectional study. J Acute Dis 2020;9:100-4.

18. Ferdous MZ, Islam MS, Sikder MT, *et al*. Knowledge, attitude, and practice regarding COVID-19 outbreak in Bangladesh: An online-based cross-sectional study. PLoS One 2020;15:e0239254.

19. Bhagavathula AS, Aldhaleei WA, Rahmani J, *et al*. Knowledge and perceptions of COVID-19 among health care workers: Cross-sectional study. JMIR Public Health Surveill 2020;6:e19160.

20. Hussein NR, Naqid IA, Jacksi K, *et al*. Assessment of knowledge, attitudes, and practices toward COVID-19 virus among university students in Kurdistan region, Iraq: Online cross-sectional study. J Family Med Prim Care 2020;9:4809-14.

21. Zhong BL, Luo W, Li HM, *et al.* Knowledge, attitudes, and practices towards COVID-19 among Chinese residents during the rapid rise period of the COVID-19 outbreak: A quick online cross-sectional survey. Int J Biol Sci 2020;16:1745-52.

22. Azlan AA, Hamzah MR, Sern TJ, *et al*. Public knowledge, attitudes and practices towards COVID-19: A cross-sectional study in Malaysia. PLoS One 2020;15:e0233668.

23. Giao H, Han NTN, Khanh TV, Ngan VK, Tam VV, An PL. Knowledge and attitude toward COVID-19 among healthcare workers at district 2 hospital, Ho Chi Minh City. Asian Pac J Trop Med 2020;13:260-5.

24. Ikhlaq A, Bint-E-Riaz H, Bashir I, *et al*. Awareness and attitude of undergraduate medical students towards 2019-novel Corona virus. Pak J Med Sci 2020;36:S32-6.

25. Roy D, Tripathy S, Kar SK, *et al*. Study of knowledge, attitude, anxiety & perceived mental healthcare need in Indian population during COVID-19 pandemic. Asian J Psychiatr 2020;51:102083.

26. Li S, Feng B, Liao W, *et al*. Internet use, risk awareness, and demographic characteristics associated with engagement in preventive behaviors and testing: Cross-sectional survey on COVID-19 in the United States. J Med Internet Res 2020;22:e19782.

27. Yakar B, Kaygusuz TÖ, Pirincci E, Onalan E, Ertekin YH. Knowledge, attitude and anxiety of medical students about the current COVID-19 outbreak in Turkey. Fam Pract Palliat Care 2020;5:36-44.