

Research Article

COVID-19 Pandemic: Perception and Psychological Impact of COVID-19 Among Medical Students 2021- 2022, Sudan

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Abstract

Introduction: COVID-19 is highly infectious disease with air-borne based transmissibility, quick spread causes global pandemic. Impacted in medical education specially, medical student is more susceptible to infection due to their position as students and in training, their understanding of illness is essential for both their safety and reassuring information in their families and communities. **Objectives:** This study aimed to assess COVID-19 related perception and practice among medical students at Alzaiem Alazhari University, and their psychological response during outbreak. **Methods:** Descriptive cross-sectional study was done among 277 participants of medical students at Alzaiem Alazhari University in Khartoum, Sudan, using electronic structural questionnaire by google form. **Results:** 153 of participants are female (55.2%). 50.2% ageing 19-21years. 22.7% think older adults not vaccinated are the most susceptible to get infected. 71.8% of participants think it is a serious and life threatening. 33.9% of participants get their information from social media, 20.9% from medical journals. Majority of participant (66.1%) think it is a disease should follow the news of. 41.2% take the vaccine. 28.9% get infected, (18.8%) of them undergo home quarantine, (20.6%) take vitamin C, (13.7%) take Paracetamol. 40.4% of participants have a family member infected. Majority of participants show good practice and health precaution to avoid infection. 26.4% of participants afraid of getting sick. 4.7% of participants have previous psychological disorders not related to COVID-19. 26.4% have psychological symptoms during pandemic. 25.6% of them increase their previous existing symptoms severity. **Conclusion and recommendations:** Study revealed that most of participants (44%) show moderate level of knowledge, and (50%) of them have moderate level of attitude and practice. Regarding the correlation between the level of knowledge with attitude and practice as general good knowledge and positive attitude among medical students were translated into good practice. Also, study show a disturbed psychological response was experienced by medical students.

Keywords

COVID-19, Pandemic, Psychological Response, Respiratory Disease, Medical Students

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1. Background

COVID-19 was the responsible agent of the pneumonia of unknown origin that started in China [1]. After a while the World Health Organization (WHO) announced the disease as a pandemic that spread COVID-19 and the virus causes Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) [2]. The SARS-CoV-2 virus is different from its previous predecessors in that it is highly contagious and spread easily from person to person, which is what caused the enormous number of infected individuals [3]. WHO declared the COVID-19 epidemic as the sixth public health emergency of international concern on January 30, 2020, and to prevent its spread, health workers, governments, and the public must act together globally. China reports the first case of novel respiratory virus in November 2019, this was sequel on January 7, and pandemic was declared on March 11th, 2020 [4, 5]. The evidence available indicates that COVID-19 mostly spread through respiratory droplets and direct contact with secretions from infected individuals, such as saliva and respiratory secretions that are released when an infected person talks, sneezes, or coughs. 2–14 days following acquiring the virus, the signs and symptoms may start to manifest. Patients show a wide variety of signs and symptoms, such as loss of taste and smell, fever or chills, body aches, and runny or congested noses. [6-8]. In most of affected countries, the population estimates for COVID19 are large, and this has contributed to an increase in mortality, morbidity, respiratory failure, shock, and prolonged hospitalization, particularly for those categorized as developed. However, due to a lack of an adequate reporting system, the situation in less developed countries is not clear [9]. COVID-19 case reported in Sudan on 2020. The pandemic spread even further in the country during a short period of time with case fatality rate up to 6.5% [10, 11]. The WHO states that COVID-19 virus transmission can occur either through physical contact, or indirectly via surrounding medium of clothes, doors and others that an infected individual was using [12]. In the general population, as huge sequel of the pandemic was reported among the infected cases [13]. Therefore, medical students and health care workers are among those affected are thought to be particularly susceptible to these problems. Medical students were uniquely affected by the disease due to their positions both as students and future physicians [14]. Source of medical students' information has a direct impact on society, the practice of their families and other people, even on their own life. Due to misconception, it is essential to assess the knowledge and behaviour and reaction toward such outbreaks. [15].

Although researchers assessed the medical knowledge of AAU medical students and impacts of different factors upon it [16, 17]. Yet there is no study assess the significance of COVID-19 upon them. This study aims to assess awareness of medical students and its mental impact.

Objectives

General Objective: To determine perception and mental

impact of COVID-19 among Alzaiem Alazhari University medical students.

Specific Objectives:

1. To determine the relationship between gender, batch level and level of knowledge and practice.
2. To investigate the mental impact of the pandemic.

2. Methodology

Study design and setting:

A Cross-sectional descriptive study carried out at Alzaiem Alazhari University, Khartoum, Sudan. on undergraduate medical student during the period from December 2021 to June 2022. Using the following formula sample size found to be 277 at the confidence level of 95% and degree of precision 0.05. Selected through stratified random sampling technique, the medical students were divided into 5 strata (according to their academic year) then the sample was selected randomly from each stratum.

$$n = (Z^2 * pq) / e^2$$

were:

n= required sample size

Z= level of confidence of 95%

p= estimated prevalence of study subject= 985

q= 1-p

e= margin of error at 5%

Data Collection tools and analysis:

Data was collected use electronic structured questionnaire by google form. Which is filled by participant, included 4 parts; personal data, knowledge of medical students, practice of medical student during the pandemic and psychological response of medical student. Then analyzed using SPSS version 25 (The statistical Package of Social Science) software program.

Ethical consideration of study:

Ethical approval obtained from the ethical committee of faculty of medicine, Alzaiem Alazhari University. Verbal and written consent obtained from those who participated on the study.

3. Result

The main constituent of the respondents were female, aging 19 to 21 years old Table 1. Knowledge wise 12.3% of the respondents acknowledged COVID-19 as air born disease, 7.6% of them believed that COVID-19 had Flu like symptoms, while 9% agreed on that the virus can stick in air and any other surfaces. Regarding the transmission COVID-19, 8.3% of the respondents disclosed that the virus could be transmitted via body fluids and airborne droplets and it is highly contagious.

The result showed that most of the participants 23.1% agreed on those immunocompromised individuals were the most susceptible group, while 22.7% believed that older adults who are not vaccinated are highly vulnerable to the disease. 71.8% think it is a serious and life-threatening disease. The majority of the respondents got their information from social media 33.9%.

Around third of the respondents got COVID-19 infection 28.9%, while only 41.2% got the vaccination. Those who got the infection, 18.8% undergo home quarantine while only 4.3% confined to the isolation center. Those who did not get isolation despite getting the virus represent only 2.5%. Vitamin C was the most predominant medication the infected people used 20.6%. most of the cases were moderately severe with 49.9% of them had free family members of COVID-19.

Participants health precautions to avoid infection were; wearing face masks, cover coughs and sneezes and avoid close contact with people who are sick, 19.1%, 12.6% and 8.3% respectively.

More than half of them did not afraid of getting the infection 49.5%, while those who had psychological disorder represent 4.7%. with depression be the most reported disorder. 49.7% of them reported increase of their psychological disorder symptoms because of COVID-19.

Those who get newly psychological symptoms during the pandemic represent 26.4% with stress and anxiety being the most reported ones. Overall, the participants had moderate

level of awareness [Figure 1](#).

Table 1. Demographic characteristics of the participants.

Variable	Frequency	Percent %
Gender		
Male	124	44.8%
Female	153	55.2%
Batch of the participants		
24	55	19.9%
25	63	22.7%
26	58	20.9%
27	52	18.8%
28	49	17.7%
Age of the participants		
18 or less	11	4.0%
19- 21	139	50.2%
22 or more	127	45.8%

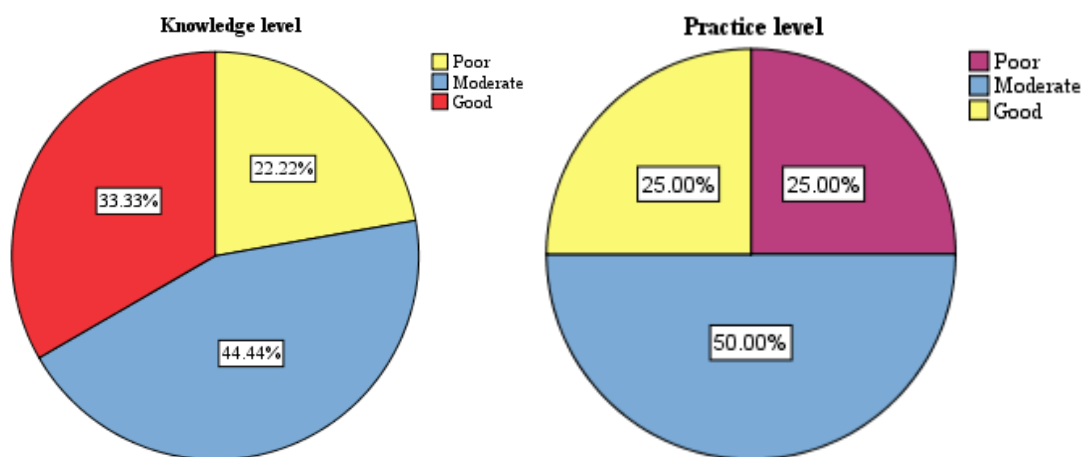


Figure 1. Knowledge and practice of the participants.

4. Discussion

The study was conducted on among 277 medical students of Alzaiem Alazhari University to assess perception and psychological impact of COVID-19 among students. Align with previous studies females represent the majority of the respondent [18]. Consistent with other studies the participants agreed on that hand shaking, kissing, exposure to contami-

nated surfaces and droplet inhalation were the primary mode of transmission [19]. The results of the study revealed that majority of the respondents think it is a serious and life threatening, and this is consistent with the previous studies [18]. In line with previous studies, almost half of the respondents agreed on the seriousness of the virus and recognize it as life threatening infection [18]. Social media was the predominant source of information regarding the pandemic which is align with (Olaimat AN) that reported internet as the

most common source [20]. Around quarter of the participants had home quarantine that is differ from Khasawneh et al study [19]. In consistent with Alzoubi et al studys very few numbers of respondents were vaccinated while paracetamol represent the most utilized medication [21]. Previous study demonstrated negative impact of social media on mental health [22]. However, in this study (87.4%) of participants reported no psychological disorder while, (4.7%) of participants reported psychological disorder. (26.4%) afraid of getting sick. This study differs from the study (Seetan K). [23] The results revealed that most of participants (44%) show moderate level of knowledge about COVID-19, while (50%) of them have moderate level of attitude and practice. Majority of male show a good knowledge about the disease compare with female. No significant differences between male and female level of attitude and practice. Unexpectedly majority of first year medical students show a satisfactory level of knowledge, but most of them have a moderate level of attitude and practice so there is no very good correlation between knowledge and positive attitude and practice. Acceptable degree of awareness showed among 22 and more years old participants, while all ages show a moderate level of attitude and practice. Regarding the correlation between the level of knowledge with attitude and practice as general good knowledge and positive attitude among medical students demonstrated as acceptable practice, this similar to study of (Dorji T) [24].

5. Conclusion

During pandemics, Medical Students play an important role in ensuring their own safety, the safety of their families and their community. This study revealed that current awareness of the participants during COVID-19 pandemic were sufficient. However, some student's need to improve their knowledge from reliable source of information. Also, this study revealed that disturbed psychological response was experienced by medical students.

6. Recommendation

We Recommended: 1. To increase awareness of medical students regarding COVID-19 disease and encourage them to get their information from reliable source. 2. To ensure their attitude when they become infected or their family member. 3. To encourage their self-preventive behaviour during outbreak. 4. To ensure students mental health during such pandemics.

Limitation of the study: Data presented in this study was self-reported; therefore, it is subject to recall bias since it partly dependent on the participant's recall ability.

Abbreviations

WHO World Health Organization

Conflicts of Interest

The authors declare no conflicts of interest.

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