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Study on Knowledge and Perception towards COVID-19 Disease among 3rd Year Medical Students of Sir Salimullah Medical College and Mitford Hospital, Dhaka, Bangladesh

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Abstract **Original Research Article**

This descriptive cross sectional study was conducted to determine the level of knowledge & perception towards COVID-19 disease among 3rd year medical students of Sir Salimullah Medical College & Mitford Hospital. This study was done in the period of September, 2021 to April, 2022. Our sample size was 152, and data was collected over the telephone with a semi-structured questionnaire. Most of the respondents (61.18%) were female, majority (86.18%) were Muslim. Among them most of the respondents 43(27.04%) were from Khulna division. From our study, we found that all of the students (100%) stated that they heard about covid, mild covid patients can recover at home & hand hygiene, social distancing help in prevention of COVID. Among them most of the students (43.42%) heard about the ongoing pandemic from News & Social Media. Among the respondents almost all of them (99.34%) knew about the incubation period of COVID-19, which is 2-14 days. Most of them (71.02%) knew about the symptoms of COVID-19 are Fever, Headache, Dry Cough, Sore Throat, Tiredness. It is considered that the findings of the study will serve as a useful basis for further research and planning in covid-19 disease prevention.

Keywords: Knowledge, Perception, COVID-19 Disease, Medical Students. Bangladesh.

INTRODUCTION

In the past two decades, many countries faced challenges of major infectious disease epidemics including SARS-CoV-1, swine flu (H1N1), Middle East respiratory syndrome coronavirus (MERSCoV), avian influenza (H7N9), and Ebola virus [1]. In December 2019, a new viral infection type appeared in Wuhan, China; it has been called novel coronavirus disease (COVID-19) by the World Health Organization. The unknown nature of the virus has caused an outburst of health systems generating alarming death rates in many countries worldwide. From reports of previous epidemics, studies reveal that the dispersal capacity of COVID-19 virus is much wider than SARS or MERS [2]. Now,as WHO reports, as of January 28, 2022, there have been 364,191,494 confirmed cases of COVID-19, including 5,631,457 deaths [3]. Preliminary scientific reports revealed that, COVID-19 would be possibly spread via animals to humans but the current findings states that human to human transmission occurs through direct contact and respiratory droplets which spread by coughing, sneezing, speaking, fomites contaminated by respiratory droplets etc. The incubation period of COVID-19 is 2-14 days and the initial symptoms would appear as fever, cough, shortness of breath, trouble breathing, pain or pressure in the chest, fatigue, loss of appetite, confusion, diarrhea, etc. Standard recommendations to prevent infection spread include wearing masks, maintaining social distance, hand hygiene, covering mouth and nose when coughing or sneezing, not touching eyes, nose & mouth without washing hands while outside as well as avoid close contact with anyone showing symptoms of respiratory illness. In Bangladesh, similar to many other nations, COVID-19 seems grave mainly due to cases imported

by expatriates. Following its first positive COVID-19 case on March 8, 2020, Bangladesh shuttered its educational institutions on March 17, saw its first COVID-19 death on March 18, and instituted a nationwide lockdown on March 26 [4]. As of January 30, 2022, there have been 1,785,332 confirmed cases of COVID- 19, including 28,363 deaths [5]. In order to minimize this huge loss of lives due to COVID-19, vaccination has already started worldwide approved by the WHO. The Bangladesh government has also launched vaccination programs with a target of getting 80% of the total population vaccinated. Till date about 10.4% of total population has been fully vaccinated [6]. During a pandemic, healthcare organizations are supposed to have a main role, where healthcare professionals are at extreme risk of exposure and getting infected. Medical universities all over the world have rapidly developed new strategies to establish innovative experiences for students who were suspended from their clinical rotations. Moreover, many universities across the world rapidly take a decision to develop new strategies and to shift many of their educational activities from face to face mode to an online one using different applications. Though the students from medical and allied health sciences are not directly involved in managing COVID -19 patients, they can serve as information provider [7]. They can sensitize community people about maintaining personal hygiene, symptoms of COVID-19 and how to prevent its spread. They can encourage them in getting vaccinated to protect themselves from the fatal complications of COVID-19. Students must possess the basic knowledge about the novel Coronavirus and be able to clear the myths pertaining to COVID-19. Epidemic outbreaks are the main cause of increasing fatality rates and morbidity and may obligate communities to introduce restrictive public health protective measures like isolation, mass quarantine, and community containment interventions in order to prevent transmissions and save people [1]. Our study was aimed to assess the knowledge and perception about COVID-19 disease among 3rd year medical students of Sir Salimullah Medical College and Mitford Hospital. Since decisions have been taken recently by the government regarding the reopening of medical colleges, 3rd year medical students have to prepare themselves for the offline college classes, ward classes as well as staying in hostels in this pandemic situation. So assessing their knowledge and awareness about COVID-19 disease is important. And through this study we have tried to find out the status of information the respondents had about the disease, awareness about it and the rate of adoption of preventive measures.

RESEARCH METHODOLOGY

Study Design

This was a cross sectional type of descriptive study.

Study Place

This Study was carried out at Sir Salimullah Medical College, Dhaka, Bangladesh.

Study Period

This study was conducted from September, 2021 to April, 2022.

Study Population

The Study population was compromises of students of 3rd year of Sir Salimullah Medical College (SS-47).

Sample Size

After giving the consent who were willing to provide opinions & due to some limitations the sample size was 159.

RESULTS

Table-1: Distribution of respondents according to gender and religion (N=159)

Sex		
Male	93	58.8
Female	66	41.5
Religion		
Islam	137	86.16%
Hinduism	21	13.2%
Buddhism	01	0.64%

Out of 159 respondents, majority 93(58.5%) were female & remaining 66(41.5%) were male. majority 137(86.16%) were belongs to Islam, 21(13.2%) belong to Hinduism & remaining 01(0.64%) belongs to Buddhism. 159 respondents, everyone (100%) heard about COVID-19 disease (Table-1).

Table-2: Distribution of respondents according to division (N=159)

Division	Frequency	Percentage (%)
Barishal	10	6.4%
Chattogram	29	18.24%
Dhaka	30	18.9%
Khulna	43	27.04%
Mymensingh	8	5.03%
Rajshahi	23	14.46%
Rangpur	12	7.55%
Sylhet	4	2.51%

Table-2 showed that out of 159 respondents, majority 43(27.04%) were from Khulna. The 2nd highest number of respondents 30(18.9%) were from Dhaka division. Least number of respondents 4(2.51%) were from Sylhet division.

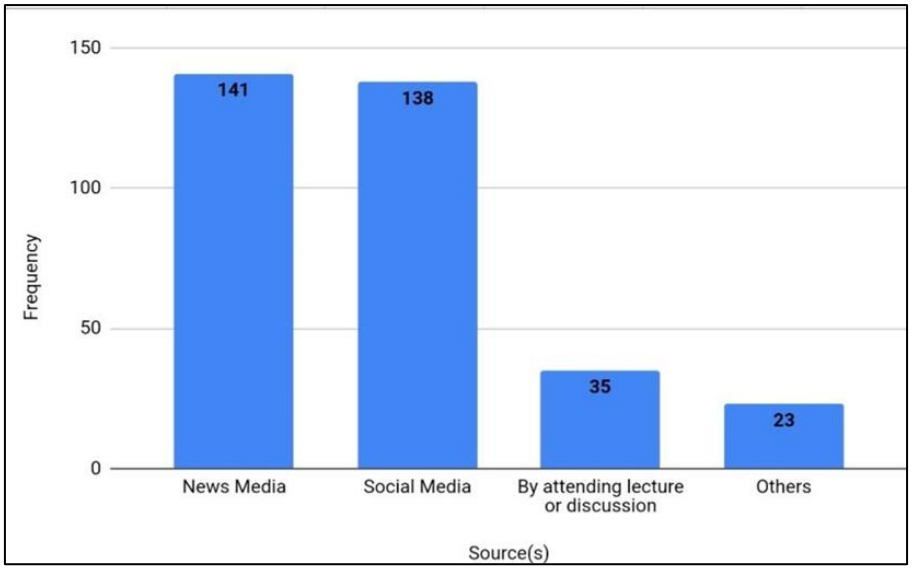

Figure-1: Distribution of respondents according to sources of their knowledge about COVID-19.

Figure 1 showed that out of 159 respondents, majority 141(88.68%) got knowledge about COVID-19 from news media. While 138(86.8%) respondents told that they got knowledge from social media.

Table-3: Distribution of respondents according to their knowledge on most common symptoms of COVID-19 (N=159)

Symptom(s)	Frequency	Percentage (%)
Fever	157	98.74%
Dry Cough	144	90.57%
Sore Throat	143	89.94%
Tiredness	128	80.5%
Headache	137	86.16%

Table-3 showed that out of 159 respondents 157(98.74%) said that fever is the symptoms of COVID-19. 90.57% & 89.94% said that dry cough & sore throat respectively is the symptoms. While 86.16% & 80.5% said headache & tiredness respectively.

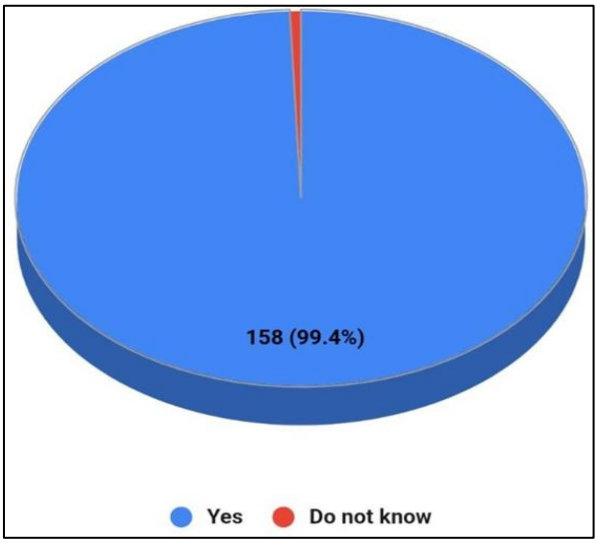

Figure-2: Distribution of respondents according to knowledge & about incubation period (appearance of symptoms) of COVID-19.

Figure 2 showed that 158(99.4%) of respondents knew about incubation period of COVID-19, while only 1(0.4%) didn't.

Table-4: Distribution of respondents according to their knowledge on COVID-19 complications (pneumonia, respiratory failure, stroke, MI, neck stiffness and death); whether they think COVID-19 may leads to stated complications or not (N=159)

COVID-19 leads to these complications	Frequency	Percentage (%)
Yes	150	94.33%
No	5	3.14%
Do not know	4	2.51%

Table-4 showed that almost all of the respondents 150(94.33%) thought that COVID-19 leads to above mentioned complications, 3.14% didn't thought & 2.51% didn't know.

Table-5: Distribution of respondents according to their knowledge about current COVID-19 treatment; whether it is supportive care or not (N=159)

Supportive care as the current treatment for COVID-19 or not	Frequency	Percentage (%)
Yes	139	87.42%
No	20	12.58%

Table-5 showed that most of the respondents 139(87.42%) know that supportive care is the current treatment of COVID-19 & remaining 20(12.58%) didn't know.

Table-6: Distribution of respondents according to their knowledge about the organ(s) most affected by COVID-19 (N=159)

Organ(s)	Frequency	Percentage (%)
Lung	159	100%
Heart	7	4.4%
Brain	6	3.8%
Liver	2	1.26%
Kidney	3	1.9%
Pancreas	1	0.63%

Table-6 showed that out of 159 respondents, everyone 159(100%) knew that lung is the most affected organ by COVID-19. Minority knew that other organs may also be affected including the lung.

Table-7: Distribution of respondents according to knowledge about role of hand hygiene & cough etiquette in the prevention of COVID-19 (N=159)

Hygiene help to prevent COVID-19 or not	Frequency	Percentage (%)
Yes	159	100%
No	00	00%

Table-7 showed that all respondents 159(100%) agreed that hand hygiene,covering nose and mouth while coughing help to prevent COVID-19.

Table-8: Distribution of respondents according to perception on prevention of COVID-19 by washing hands with soap and water (N=159)

Washing hands with soap and water help in the prevention of COVID-19 transmission	Frequency	Percentage (%)
Yes	156	98.11%
No	03	1.89%

Table-8 showed that 156(98.11%) said that washing hands with soap & water help in prevention while others not.

Table-9: Distribution of respondents according to their perception on the role of social distancing to prevent COVID-19 (N=159)

Social distancing help in the prevention of COVID-19 transmission or not	Frequency	Percentage (%)
Yes	159	100%
No	00	00%

Table-9 showed that out of 159 respondents, everyone 159(100%) said social distancing can prevent COVID-19 transmission.

DISCUSSION

The COVID-19 pandemic in Bangladesh is part of the worldwide pandemic of coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). This descriptive cross-sectional study was conducted to know about the knowledge and perception towards COVID-19 among the third year medical students of Sir Salimullah Medical College and Mitford Hospital, Dhaka, Bangladesh. Data was collected from 159 respondents. Among them, 93 participants (58.5%) were female and 66 participants (41.5%) were male. 137 participants (86.16%) were Muslim, 21 participants (13.2%) were Hindu and 01 participant (0.63%) was Buddhist. Our study reveals that out of 159 respondents, 159 respondents (100%) had heard about COVID-19. Study conducted by Dr Khandaker Mursheda Farhana and Dr Kazi Abdul Mannan in 2020 among 435 people of different occupational background in Bangladesh showed that 97.8% had heard about COVID-19, which is less than our study [8]. Here, the difference with other study is due to the educational background. In our study, among 159 respondents, all are medical students. Our study shows that among 159 respondents, 141 respondents (88.7%) had the knowledge about COVID-19 from news media, 138 respondents (86.8%) had from social media, 35 respondents (22.01%) had by attending lectures or discussion and 23 respondents (15.5%) had the knowledge from other sources. A study conducted by Prati B. Patel, Pushti M. Shah, Jay R. Patel, *et al.,* in 2020 among the medical and allied health science students in India shows that among 715 students the main source of knowledge about COVID-19 was social media (65.17%) followed by news media (20.84%), print media and others [7]. Another study conducted by Anas Abu Humeidan, Sarah Bloukh, Mohannad Ramadan *et al*., among medical students of Jordan in 2020 shows that among 1404 students 83.4% students used social media for their knowledge about COVID-19 [9]. Our study shows that among 159 respondents, 157 respondents (98.74%) said the common symptom of COVID-19 are fever, 144 respondents (90.57%) said dry cough, 143 respondents (89.94%) said sore throat, 128 respondents (80.5%) said tiredness and 137 respondents (86.16%) said headache. A study conducted by Ahmed Samir Abdelhafiz, Zeinab Mohammed, Enam A. Sultan among Egyptian adults in March 2020, shows that 94.6% respondents said fever, 97.1% respondents answered dry cough, 97.1% respondents answered difficulty in breathing as common symptoms of COVID-19 [10]. Another study conducted by Jamal Rahmani, Wafa Ali Adhaleei, Deepak Kumar Bandari *et al.,* among the health care workers of different countries shows that 73.2% respondents said that headache, fever, cough, sore throat and flu are the common symptoms of COVID-19 [11]. From our study we can see that among 159 respondents, 158 respondents (99.37%) answered that incubation period of COVID-19 is 2-14 days and 1 respondent (0.63%) answered as does not know. A study conducted by Dr Khandaker Mursheda Farhana and Dr Kazi Abdul Mannan in 2020 among 435 people of different occupational background in Bangladesh shows that 91.3% respondents answered that incubation period of COVID-19 is 2-14 days [8]. Another study conducted by Prati B. Patel, Niraj Pandit, Asavari Raut *et al.,* among the medical and allied health science students in India in 2020 shows that 70.77% respondents know about the incubation period of COVID-19 correctly [7]. In our study we can see that among 159 respondents, 150 respondents (94.33%) answered positively that COVID-19 may lead to pneumonia, respiratory failure, stroke, MI, neck stiffness and death, 5 respondents (3.14%) answered negatively and 4 respondents (2.51%) said that they did not know. A study conducted by Jamal Rahmani, Wafa Ali Adhaleei, Deepak Kumar Bandari *et al.,* among the health care workers of different countries shows that 77.9% respondents said COVID-19 may lead to pneumonia, respiratory failure and death [12]. Another study conducted by Dr Khandaker Mursheda Farhana and Dr Kazi Abdul Mannan in 2020 among 435 people of different occupational background in Bangladesh shows that 53.4% respondents answered that COVID-19 leads to pneumonia, respiratory failure and death [8]. Another study conducted by Wafaa Yousif Abdel Wahed, Enas Mamdouh Hefzy, Mona Ibrahim Ahmed, *et al.,* among health care workers of Egypt in 2020 shows that 93.9% respondents answered that COVID-19 leads to pneumonia, respiratory failure and death [10]. Our study also reveals knowledge about organ(s) most affected by COVID-19. Among 159 respondents, 144 respondents (90.57%) said lung is the most affected by COVID-19, 5 respondents (3.14%) answered respiratory system, 3 respondents (1.89%) answered lung, heart, brain, 2 respondents (1.26%) said lung, heart, 1 respondent (0.63%) answered lung, brain. From our study we can see that among 159 respondents, 159 respondents (100%) said that people with mild COVID-19 symptoms can recover at home. World Health Organization suggests that people with mild symptoms should manage their symptoms at home. In our study we can see that among 159 respondents, 159 respondents (100%) answered that hand hygiene, covering nose and mouth while coughing help in the prevention of COVID-19 transmission. A study conducted by Jamal Rahmani, Wafa Ali Adhaleei, Deepak Kumar Bandari *et al.,* among the health care workers of different countries shows that 85.6% responded agreed that hand hygiene, covering nose and mouth while coughing and avoiding sick contacts can help in the prevention of COVID-19 transmission [11]. Another study conducted by Dr Khandaker Mursheda Farhana and Dr Kazi Abdul Mannan in 2020 among 435 people of different occupational background in Bangladesh shows that 72.2% respondents agreed to the

fact [8]. Our study also shows that among 159 respondents, 155 respondents (97.47%) respondents said that avoiding contact with COVID positive patient can help in the prevention of COVID-19 transmission, while 4 respondents (2.51%) answered negatively. Our study shows that among 159 respondents, 158 respondents (99.37%) said that COVID-19 may be fatal and 1 respondent (0.63%) answered negatively. Jamal Rahmani, Wafa Ali Adhaleei, Deepak Kumar Bandari *et al.,* has shown in their study among the health care workers of different countries that 11.4% respondents said COVID-19 is fatal and the rest answered negatively [11]. Another study conducted by Dr Khandaker Mursheda Farhana and Dr Kazi Abdul Mannan in 2020 among 435 people of different occupational background in Bangladesh shows that 66.7% respondents said COVID-19 is fatal [8]. Our study gives us idea about prevention of COVID-19 through flu vaccination. Among 159 respondents, 42 respondents (26.41%) said flu vaccination can prevent COVID-19 disease and 117 respondents (73.58%) respondents answered that flu vaccination cannot prevent COVID-19 disease. A study conducted by Jamal Rahmani, Wafa Ali Adhaleei, Deepak Kumar Bandari *et al.,* among the health care workers of different countries shows that 90.7% respondents responded that flu vaccination is not sufficient for preventing COVID-19 [11]. Another study conducted by Dr Khandaker Mursheda Farhana and Dr Kazi Abdul Mannan in 2020 among 435 people of different occupational background in Bangladesh shows that 81.4% respondents answered flu vaccination cannot prevent COVID-19 disease [8]. In our study among 159 respondents, 154 respondents (96.85%) said that sick patients should share their recent travel history with health care providers and 5 respondents (3.14%) replied negatively. A study conducted by Jamal Rahmani, Wafa Ali Adhaleei, Deepak Kumar Bandari *et al.,* among the health care workers of different countries shows that 92.7% respondents said positive about the sick patients sharing history with health care providers [11]. Same answer is found from 61.6% respondents from the study conducted by Dr Khandaker Mursheda Farhana and Dr Kazi Abdul Mannan in 2020 among 435 people of different occupational background in Bangladesh [8]. Another study conducted by Ahmed Samir Abdelhafiz, Zeinab Mohammed, Enam A. Sultan among Egyptian adults in March 2020, shows that 99.6% respondents said proper hand wash can prevent COVID- 19 [13]. From the study conducted by Dr Khandaker Mursheda Farhana and Dr Kazi Abdul Mannan in 2020 among 435 people of different occupational background in Bangladesh we can see that 81.7% people said washing hands with soap and water can help in the prevention of COVID-19 transmission [8]. In our study we can see that among 159 respondents, 159 respondents (100%) answered that social distancing can help in the prevention of COVID-19 transmission. According to a study conducted by P.O Olapegba, O. Ayandele, S.O. Kolawole *et al.,* among general public in Nigeria in 2020, it is seen that 94.25% of people said that social distancing can prevent COVID-19 [12]. Another study conducted by Ahmed Samir Abdelhafiz, Zeinab Mohammed, Enam A. Sultan among Egyptian adults in March 2020, shows that 99.1% respondents had knowledge about social distancing in prevention of COVID-19 [13].

Limitations of the Study

1. Here, the sample was selected from the students of 3rd year of Sir Salimullah Medical College, as this was an area based study encompassing a single group. Therefore, the results from this study may not represent the level of awareness and perception of COVID-19 among the entire medical students or whole population from university level or from whole country.
2. The sample was age specific; only the students of 3rd year (21-23 years) were included in the sample.
3. As the sample size was relatively small so the results were not generalized.
4. The time period for the study was very short.

CONCLUSION

Current global pandemic situation demands substantial awareness of COVID-19. With this in concern the objective of our study was to assess the knowledge and perception of 3rd year medical students of Sir Salimullah Medical College and Mitford Hospital about COVID-19. Our study analyzed data concerning their level of knowledge and perceptions of the disease. Consequently we determined that 3rd year medical students were knowledgeable about and aware of the pandemic. This study showed good knowledge of COVID-19 among 159 respondents with an overall knowledge score of more than 90%. Our respondents exhibited extensive knowledge of most questions about general information, mode of transmission, common symptoms, complications, fatality and ways of prevention of COVID-19 disease. As the COVID-19 cases are rapidly increasing worldwide, it is essential to improve the knowledge among general public to prevent its spread. Medical students with their educational background and basic understanding about COVID-19 can play a significant role by making the community people aware about the seriousness of this pandemic situation. Thus medical educators should inculcate relevant knowledge and educate medical students so that health care practices can be improved during this pandemic and in future epidemic. Medical students are more motivated by a sense of purpose of study, perception of good performance and values of professionalism. These results have implications for the design of health force policies in the present pandemic and in future emergencies.

RECOMMENDATION

1. Countries where the epidemic is hitting hard should implement strategies to keep their medical students updated about emerging public health and medical emergencies.
2. Students should also be properly guided to proper sources of information during these times. During the critical times they should be equipped with medical knowledge, proper attitude and good precautionary measures.
3. Consultation channels aimed at getting feedback from the students and ensuring culturally and religiously appropriate messages may improve cooperation among the students.
4. Students need to be inspired to use soap and water or alcohol based hand rub, using masks and hand gloves and maintaining social distance everywhere.
5. Different learning techniques, such as online problem-based, computer-generated simulations, case analysis, and task training, should be added to medical school curricula, especially at the time when widespread fear and uncertainty are prevalent.

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