Journal of
Clinical and Pharmaceutical Research
RESEARCH ARTICLE OPEN ACCESS

A Study on the Assessment of Knowledge, Attitude and Practice on COVID-19 among the Indian Pharmacy Students

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ARTICLE INFO

Article History:
Received: 08.08.2022
Revised: 20.09.2022
Accepted: 12.10.2022

Keywords:
Cough
COVID-19
Pyrexia

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ABSTRACT

Aim: To evaluate the knowledge, attitude and practice towards COVID-19 among the Indian pharmacy students.

Materials and Methods: This was a prospective study conducted among the Indian pharmacy students by using the KAP questionnaire which was circulated by means of Google forms to various pharmacy colleges located in India. A total number of 151 pharmacy students were participated in this study by filling the KAP questionnaire. In this study, the questionnaire was divided into 3-categories mainly knowledge, attitude and practice.

Results: According to the grading of the knowledge, most of the study participants were observed to be with good knowledge (92.1%) in the aspect of "COVID-19" followed by moderate knowledge (7.9%). In this study, the attitude of the study participants were observed to be upto the mark as they are considering "COVID-19"is a very serious disease and they are using a face mask to prevent a disease. We observed that most of the study participants increased their frequency of washing hands, using the hand sanitizer and masks, maintaining the social distance and avoiding the unnecessary travelling during the COVID-19 outbreak. Most of the study participants avoided touching their eyes, nose & mouth and also even avoided meeting their friends and relatives.

Conclusion: Pharmacy students and pharmacy professionals should have enough knowledge, attitude and practice towards COVID-19 as they are also part of the health care team. They should get involved in creating the awareness in the society regarding the COVID-19 to fight against it successfully.

Introduction

A novel corona virus strain SARSCoV-2 was identified in December 2019, which is pathogenic and causes Corona Virus Disease [1]. Majority of the population has suffered with critical illness and numerous deaths were also identified which has lead to the pandemic situation. The final scope and effect of this pandemic disease is undefined at the current perspective because it is a rapidly evolving disease. This disease is mainly associated with the respiratory symptoms like dry cough and other symptoms like pyrexia. In critical cases, shortness of breath is mainly observed [2-4].

All countries have taken a charge of strict infection control by following quarantine measures for the suspected cases based on the international standards. Regular monitoring of the disease status, its diagnostic measures and treatment plays a key role. Creating awareness within the public and explaining the preventive measures is essential for carrying out the public education. WHO has changed the status of the COVID-19 emergency from public health international emergency to a pandemic issue. The battle against COVID-19 is not still at an end globally. Public perspective and understanding of the preventive measures and practices to be followed is essential for controlling the spread of COVID-19 [5-7]. Hence in this study, we conducted a survey in the aspect of knowledge, attitude and practice towards COVID-19 among the Indian pharmacy students.

Materials and Methods

This was a prospective study conducted among the Indian pharmacy students by using the KAP questionnaire which was circulated by means of Google forms to various pharmacy colleges located in India. Students from pharmacy colleges with both the gender of all age groups were included. Students who were studying in other than the pharmacy colleges were excluded. A total number of 151 pharmacy students were participated in this study by filling the KAP questionnaire. A link was generated for the questionnaire which was prepared in the format of

Google forms and this link was circulated among the social media groups in order to get the responses from all the study participants. Responses from the study participants were analyzed and the proper interpretations of the study were done.

In this study, the questionnaire was divided into 3-categories mainly knowledge, attitude and practice. The knowledge on the study participants were graded into good (8-10), moderate (5-7) and poor (<4). The questions categorized in the attitude category were provided with the following options agree, disagree, neutral, strongly agree, strongly disagree. The questions provided in the practice category were provided with Yes/No options.

Results & Discussion

Table 1 represents the gender wise categorization of the study participants. A total number of 151 pharmacy students were partcipated in the study and among them 49 (33%) were found to be males and 102 (67%) were found to be females.

Table 1: Gender wise categorization of the study participants

Gender	Total (%)
Males	49 (33)
Females	102 (67)
Total	**151 (100)**

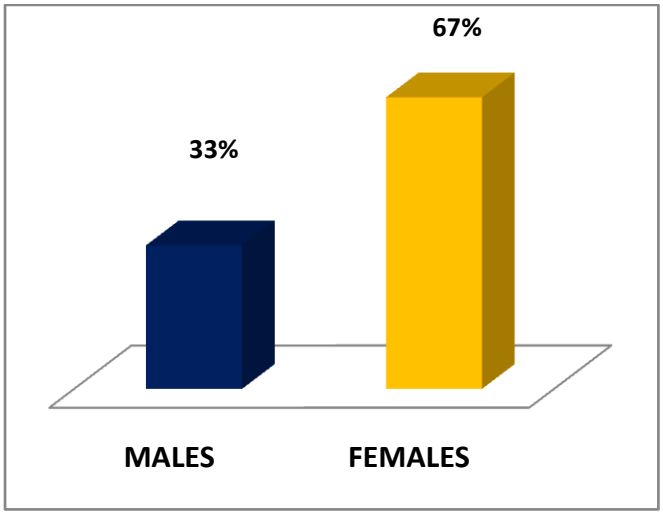

Figure 1: Gender wise categorization of the study participants

Table 2 represents the age based categorization of the study participants. Among the 151 participants 73 (48.4%) were of 18-20 years age group, 71 (47%) were of 21-23 years of age group and the remaining 7 (4.6%) were of ≥ 24 years of age.

Table 2: Age wise categorization of the study participants

Age	Males (%)	Females (%)	Total (%)
18-20 years	26 (53.1)	47 (46.2)	73 (48.4)
21-23 years	19 (38.8)	52 (50.9)	71 (47)
≥24 years	4 (8.1)	3 (2.9)	7 (4.6)
Total	**49 (100)**	**102 (100)**	**151 (100)**

Table 3 represents the responses of the questionnaire that asses the knowledge of the study participants about COVID-19. About 140 (92.7%) study participants were answered that the main clinical symptoms of "COVID-19" are fever, fatigue, dry cough and myalgia, 143 (94.8%) study participants answered that the "COVID-19" virus spread via respiratory droplets of the infected individuals, 139 (92.1%) study participants were answered that it is necessary for children and young adults to take extra precautions to prevent the infections by the COVID-19 virus, 144 (95.4%) study participants were answered that individual should avoid going to crowded places such as railway stations and avoid taking public transportation to prevent the infection by the COVID-19 virus, 143 (94.7%) study participants were answered that isolation and treatment of people who are infected with the COVID-19 virus were effective ways to reduce the spread of the virus, 143 (94.8%) study participants were answered that people who had contact with someone infected with the COVID-19 virus should be immediately isolated to a proper place.

About 144 (95.4%) study participants were answered that COVID-19 is transmitted by close contact with an infected person, 140 (92.7%) study participants were answered that advising quarantine to passengers coming from infected areas is a good practice to avoid spread of infection, 141 (93.4%) study participants were answered that older people, and people with pre-existing medical condition (such as asthma, diabetes, heart diseases) appear to be more vulnerable to becoming severely ill with the virus and 121 (80.1%) study participants were answered that Corona viruses can be fatal.

Table 3: Responses of the questionnaire to assess the knowledge of the study participants about COVID-19

S.No	Question	Yes (%)	No (%)	I Don't Know (%)
1	The main clinical symptoms of COVID-19 are fever, fatigue, dry cough and myalgia.	140 (92.7)	9 (6)	2 (1.3)
2	The COVID-19 virus spread via respiratory droplets of infected individuals.	143 (94.8)	4 (2.6)	4 (2.6)
3	Is it necessary for children and young adults to take extra precautions to prevent the infections by the COVID-19 virus?	139 (92.1)	10 (6.6)	2 (1.3)
4	To prevent the infection by the COVID-19 virus, individual should avoid going to crowded places such as railway stations and avoid taking public transportation.	144 (95.4)	6 (3.9)	1 (0.7)
5	Isolation and treatment of people who are infected with the COVID-19 virus are effective ways to reduce the spread of the virus.	143 (94.7)	6 (4)	2 (1.3)
6	People who have contact with someone infected with the COVID-19 virus should be immediately isolated in a proper place.	143 (94.8)	4 (2.6)	4 (2.6)
7	COVID-19 is transmitted by close contact with an infected person.	144 (95.4)	4 (2.6)	3 (2)
8	Advising quarantine to passengers coming from infected areas is a good practice to avoid spread of infection.	140 (92.7)	6 (4)	5 (3.3)
9	Older people, and people with pre-existing medical condition (such as asthma, diabetes, heart diseases) appear to be more vulnerable to becoming severely ill with the virus.	141 (93.4)	5 (3.3)	5 (3.3)
10	Corona viruses can be fatal.	121 (80.1)	13 (8.6)	17 (11.3)

Table 4 represents the grading of the knowledge of the study participants based on the responses. A total of 139 (92.1%) study participants were having good knowledge and 12 (7.9%) study participants were having moderate knowledge about "COVID-19".

Table 4: Grading of the knowledge of the study participants based on the responses

Grade	Males (%)	Females (%)	Total (%)
Good	47 (95.9)	92 (90.2)	139 (92.1)
Moderate	2 (4.1)	10 (9.8)	12 (7.9)
Poor	0 (0)	0 (0)	0 (0)
Total	**49 (100)**	**102 (100)**	**151 (100)**

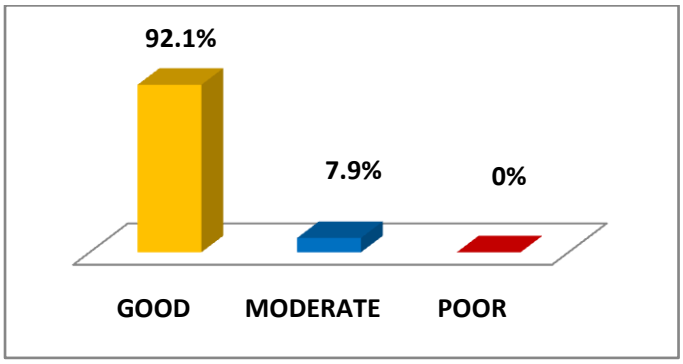

Figure 2: Grading of the knowledge of the study participants based on the responses

Table 5 represents the responses of the questionnaire to assess the attitude of the study participants towards "COVID-19". About 137 (90%) study participants agreed that COVID-19 is a serious disease, 145 (96%) study participants agreed that it is important to use a face mask to prevent the disease, 45 (29.8%) study participants agreed that corona can be treated at home without the involvement of a doctor.

About 102 (67.5%) study participants agreed that COVID-19 infection will be overcome soon, 144 (95.4%) study participants agreed that this pandemic can be overcome by taking precautionary steps, 142 (94%) study participants agreed that this infection is highly contagious, 149 (98.6%) study participants agreed that it is our social responsibility to take safety measures in controlling the spread of this infection.

Majority of the study participants (66.2%) disagreed that COVID-19 would not kill the young people and most of the study participants (75.5%) agreed that they worried about their family members due to this pandemic situation.

Table 5: Responses of the questionnaire to assess the Attitude of the study participants about "COVID-19"

S.No	Question	Agree (%)	Neutral (%)	Disagree (%)
1	COVID-19 is a serious disease	137 (90.7)	11 (7.3)	3 (2)
2	Is it important to use a face mask to prevent the disease?	145 (96)	3 (2)	3 (2)
3	Can it be treated at home without involvement of a doctor?	45 (29.8)	41 (27.2)	65 (43)
4	Are you sure that COVID-19 infection will be overcome soon?	102 (67.5)	35 (23.2)	14 (9.3)
5	Can we overcome this problem by taking precautionary steps?	144 (95.4)	5 (3.3)	2 (1.3)
6	Do you understand that this infection is highly contagious?	142 (94)	6 (4)	3 (2)
7	Do you feel that it is your social responsibility to take safety measures in controlling spread of this infection?	149 (98.6)	0 (0)	2 (1.4)
8	Do you think COVID-19 cannot kill young people?	35 (23.2)	16 (10.6)	100 (66.2)
9	Are you ever worried one of your family members may get the infection?	114 (75.5)	9 (6)	28 (18.5)

Table 6 represents the responses of the questionnaire to assess the practice of the study participants on "COVID-19. About 145 (96%) study participants responded that the outbreak of the "COVID-19" virus made them increased the frequency of washing hands. About 144 (95.4%) study participants responded that the outbreak of the "COVID-19" virus made them to use the hand sanitizer more frequently.

About 139 (92.1%) study participants responded that the outbreak of "COVID-19" virus made them to use personal protection equipment (such as masks) more often than they used to do. About 108 (71.5%) study participants responded that they stored the helpline number's in their mobile phones to contact if they come across any suspected "COVID-19" cases.

About 142 (94%) study participants responded that they maintained the social distance during the outbreak. About 132 (87.4%) study participants responded that they avoided unnecessary travelling or outing during the outbreak.

About 126 (83.4%) study participants responded that they avoided touching their eyes, nose and mouth during "COVID-19" outbreak. About 125 (82.8%) study participants responded that they avoided meeting their friends and relatives during the "COVID-19" outbreak.

Table 6: Responses of the questionnaire to assess the Practice of the study participants on "COVID-19"

S.No	Question	Yes (%)	No (%)
1	Did the outbreak of the COVID-19 virus make you increase the frequency of washing hands?	145 (96)	6 (4)
2	Did the outbreak of the COVID-19 virus make you use hand sanitizer more frequently?	144 (95.4)	7 (4.6)
3	Did the outbreak of the COVID-19 virus make you use personal protective equipment (such as masks) more often than you used to?	139 (92.1)	12 (7.9)
4	Did you write down or store in your phone any helpline number to contact in case you suspected that you or someone you know had the COVID-19 virus?	108 (71.5)	43 (28.5)
5	Did you maintained the social distance during the outbreak?	142 (94)	9 (6)
6	Did you avoid unnecessary travel or outing during the outbreak?	132 (87.4)	19 (12.6)
7	Do you avoid touching your eyes, nose, mouth during COVID-19 outbreak?	126 (83.4)	25 (16.6)
8	Do you avoid meeting your friends and relatives during COVID-19 outbreak?	125 (82.8)	26 (17.2)

Conclusion

According to the grading of the knowledge, most of the study participants were observed to be with good knowledge (92.1%) in the aspect of "COVID-19" followed by moderate Knowledge (7.9%). In this study, the attitude of the study participants were observed to be upto the mark as they are considering "COVID-19"is a very serious disease and they are using a face mask to prevent a disease. We observed that most of the study participants increased their frequency of washing hands, using the hand sanitizer and masks, maintaining the social distance and avoiding the unnecessary travelling during the COVID-19 outbreak. Most of the study participants avoided touching their eyes, nose & mouth and also even avoided meeting their friends and relatives. Pharmacy students and pharmacy professionals should have enough knowledge, attitude and practice towards COVID-19 as they are also a part of the health care team. They should get involved in creating the awareness in the society regarding the COVID-19 to fight against it successfully.

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