

Knowledge and Preventive Measures Adopted by Allied Health Care Professional Students to Control Transmission of COVID-19 Pandemic Infection During Lockdown

Sarika Dakhode¹, Swapnil Patond², Alka Rawekar³, Ajay Chaware⁴

¹Assistant Professor, Department of Community Medicine, Coordinator, ²Associate Professor, Department of Forensic Medicine & Toxicology, Vice-Dean, ³Professor, Department of Physiology, Dean, School of Allied health sciences, Jawaharlal Nehru Medical College, DMIMS, Wardha, Maharashtra, India, ⁴Associate Professor, Department of Applied Physics, Bapurao Deshmukh College of Engineering, Sevagram, Wardha, Maharashtra, India

Abstract

Introduction: After declaration of COVID-19 infection as pandemic by World Health Organisation (WHO), various preventive strategies have been intended to mitigate disease spread and control the infection rate such as isolation of patients, social distancing, hygienic practices; covering mouth and nose, restriction of mass gathering in society. Hence we planned this survey to assess the knowledge and preventive measures adopted by students to control COVID-19 infection during lockdown.

Methods: This cross sectional study was conducted among students of School of Allied Health Sciences, DMIMS, Wardha during April-May 2020. First year was selected randomly and all 168 students were approached by internet for sharing questionnaire after IEC approval. Received responses is analysed in the form of descriptive statistics.

Results: Total 139 students responded. 38.85% students understood the relationship between mass gathering and transmission of COVID-19 infection at community level. Only 34(24.46%) students were aware about safe social distance. Less than half of the students 66(47.48%) were aware about minimum 20 seconds needed to hand-rub by the alcohol based sanitizer. About 108(77.7%) students maintained the social distancing sincerely, only 74(52.5%) students always used to wear the mask and; 100(71.94%) participants always used to wash their hands.

Conclusions: Though some of the students adopted standards practices, others observed to be considering it as less important. Such survey can be conducted among in various institutions to assess the awareness and shortfall in practices. Awareness level can be raised through dedicated online awareness program.

Key words: Allied Health Sciences, COVID-19, Lockdown, Pandemic, Preventive measures, Students

Introduction

COVID-19 infection was declared as pandemic by the World Health Organisation (WHO) on 11th March

2020.^[1,2] Thereafter, it changes the world scenario and life of human being. In the present century, this infection causes global crisis for human species.^[3]

Main source of this infection is patients with COVID-19 and most common routes of transmission are droplets and close contact. Patients are recovering by providing symptomatic and palliative care.^[4,5] As no specific vaccines and treatment is available till date, only implementing and adopting preventive measures at individual and community level is the golden rule

Corresponding Author:

Dr Swapnil Patond

Associate Professor, Department of Forensic Medicine & Toxicology, JNMC, DMIMS, Wardha

Email- swapnil1985@yahoo.co.in

Mobile No-9049093630

to reduce the morbidity and mortality by COVID-19. Various preventive strategies are isolation of patients, social distancing, hygienic practices; covering mouth and nose, restriction of movements and mass gathering in society.^[6,7]

As virus is highly infectious; to date, COVID-19 has affected over 5,701,337 people worldwide, resulting in over 3,57,688 reported deaths.^[8] As of 1st June 2020, confirmed cases of corona virus infection were noted as 1,93,473 in India; out of these 94,963 were active cases. Though 93,062 patients recovered, there were 5,437 deaths in the country.^[9] Mass gathering leads to close contacts of people and maintaining the social distance is the first one step to curtail the spreading of infection.^[10] Wearing of mask is the second essential action, if person has to go in society for the unavoidable task.^[11] As the virus may get inculcated, if infected hands come in contact with mucosal surface such as eyes, nose and mouth, so the importance of hand hygiene can't be neglected.^[12] There is need to assess the preventive measures adopted in the community to ensure the control of spread of infection safety.

Objectives: To assess the knowledge and preventive

measures adopted by Allied Health Care professional students to control the transmission of COVID-19 infection during the period of lockdown.

Material and Methods:

This cross sectional study was conducted in School of Allied Health Science, DMIMS during April-May 2020. One of the graduation years i.e. first year was selected randomly and all 168 students were approached by internet. Questionnaire was prepared by referring guidelines from World Health Organization (WHO)^[13,14,15] and Ministry of Health and Family welfare, Government of India.^[16,17] Questionnaire was shared among students through internet after taking their informed consent. Received responses is analysed in the form of descriptive statistics frequency and percentage.

Results: Out of 168 students, 139 had responded to the shared questionnaire. Out of total responded, male participants were 60(43%) and 79(57%) were female students and; most of the students (33.09%) were of 18 to19 years. Maximum participants i.e. 100(72.50%) students were residing in the green zone. Social media was observed to be the commonest source of information for 109(78.42%) students.[Table I]

Table I: Basic information about Allied Health Science students

Variable		Frequency (n=139)	Percentage
Age (Years)	17-18	36	25.9
	18-19	46	33.09
	19-20	30	21.58
	20-21	15	10.79
	>22 & above	12	8.63
Gender	Male	60	43
	Female	79	57
Residential area	Rural	49	34.5
	Urban	90	65.7
City or town declared as risk zone of COVID-19 by Government	Red	23	15.9
	Orange	12	8.7
	Green	100	72.5
	Nothing	4	2.9
Source of information*	Social Media	109	78.42
	Friends	42	30.22
	Health staff	44	31.65
	Family members	52	37.41
	Other	32	23.02

(*Note: Multiple response allowed)

Table II: Knowledge about spreading of COVID-19 infection among the students

Various mode of spread of COVID-19 infection	*Infection spread in the community/human -Response (%)	*Main route of COVID 19 transmission – Response (%)
Through coughing/sneezing	91(65.47)	85(61.15)
Contact with contaminate objects	51(36.70)	52(37.41)
Mass gathering	54(38.85)	59(42.45)
Close contacts	70(50.36)	71(51.08)
Other	22(15.83)	15(10.79)
Preventive measures to control spread of COVID-19	Measures can be taken by general public- Response(%)	Most essential preventive measure should be adopted by everybody– Response(%)
Hand hygiene	19(13.67)	23(16.55)
Cough etiquettes	0(0)	5(3.60)
Social distancing	104(74.82)	81(58.27)
Use of mask	14(10.07)	27(19.42)
Avoiding cold food/drinks	0 (0)	2(1.44)
Use of Goggles/spectacles	2(1.44)	2(1.44)

(*Note: Multiple response allowed)

In the present study we assessed the knowledge regarding the spread, preventive and control measures of COVID-19 infection. 91(65.47%) participants responded for coughing/sneezing, followed by 70(50.36%) participants responded for close contacts as a mode of spread of COVID-19 infection in the community. About similar pattern of distribution of responses was noted for route of transmission in a human i.e. 85(61.15%) for coughing/sneezing and for close contacts 71(51.08%).

Most of the students i.e. 104(74.82%) were found to be aware that most essential preventive measures can be taken by general public is social distancing. However, only 81(58.27%) of students believed that social distancing should be adopted by everybody as a preventive measure.

According to 23(16.55%) of the students, hand hygiene and; 27(19.42%) students, use of mask is the most essential measures that should be adopted by everybody.[Table II]

Table III: Knowledge about Covid-19 virus among the Allied Health Science students

Social distance to prevent COVID-19 inf.	Number (%)	minimal time for alcohol-based hand rub to kill Cov-19 virus	Number (%)	Effective vaccine Available	Number (%)
1 foot	37(26.62)	5 sec	18(12.95)	Yes,	9 (6.47%)
2 feet	15(10.79)	10 sec	39(28.06)	No,	58 (41.73)
3 feet	34(24.46)	20 sec	66(47.48)	Don't know	72 (51.80)
4 feet	13(9.35)	30 sec	13(9.35)		
>4 feet	41(29.50)	>30 sec	3(2.16)		

We also tried to uncover the basic and common knowledge about the corona virus among the participants. It is noted that, only 34(24.46%) students were aware about 3 feet (one meter) social distance should be maintained to prevent COVID-19 infection. Most of the students i.e. 41(29.50%) believed that social distance of more than four feet would be safe. Whereas, 37(26.62%) and 15(10.79%) students pointed for 1 foot and 2 feet as a safe social distance in these COVID pandemic. Minimal time take for alcohol-based hand rub to kill Cov-19 virus is 20 seconds and same time for soap rubbing.^[14] Only 66(47.48%) responded this theme correctly, other 18(12.95%) and 39(28.06%) students ticked the 5 and 10 seconds required time to kill the virus respectively. 16(11.51%) students choose safer side for the same question i.e. time require to disinfect hands is more than 20 seconds.[Table III]

Table IV: Practices adopted by Allied students to prevent COVID-19 infection

Practices	Always (%)	Most of the time (%)	Sometimes (%)	Rarely (%)	Never (%)
Social distancing	108 (77.7)	24 (17.3)	4 (2.9)	0 (0)	3 (2.2)
Wearing mask for outdoor	74 (52.5)	45 (32.4)	6 (4.3)	10 (7.2)	5 (3.6)
Washing hands after returning from outside	100 (71.94)	26 (18.70)	5 (3.6)	6 (4.32)	2 (1.44)
Wear eye protection for outdoor	66 (47.48)	44 (31.65)	17 (12.23)	4 (2.88)	8 (5.75)

In the present study, 108(77.7%) students maintained the social distancing always and 24(17.3%) students maintained it most of the time. Only 74(52.5%) students always used to wear the mask for outdoor activity and 45(32.4%) students followed this practice most of the time. After returning from outside at home, 100(71.94%) participants always used to wash their hands and 26 (18.70%) students followed this practice most of the time.[Table IV]

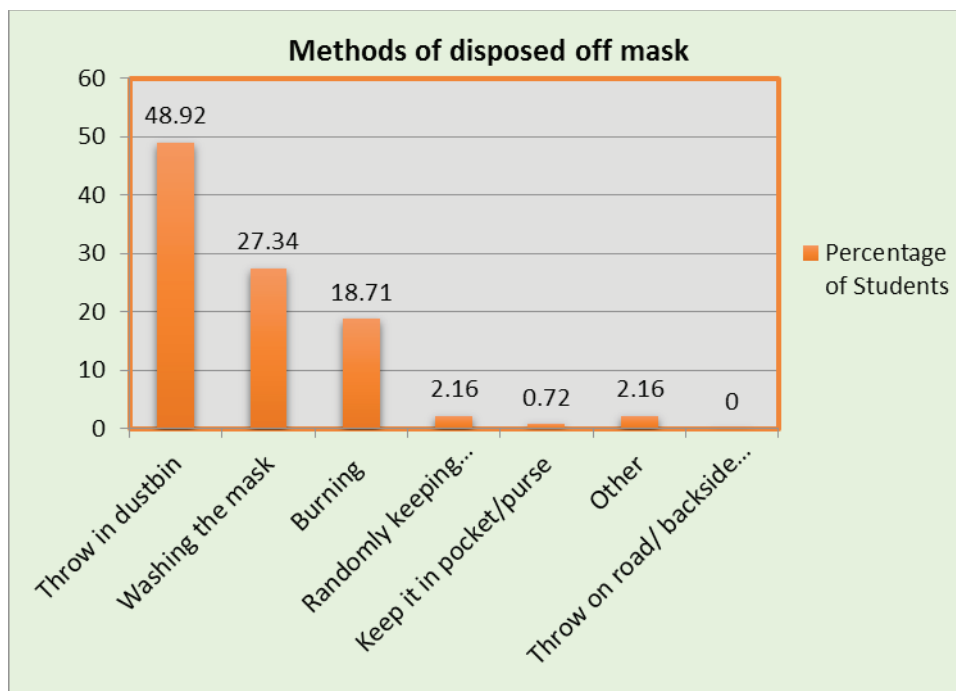


Fig:1– Methods of disposed off used mask by the students during COVID-19 pandemic

About 48.92% students followed the practice of throwing the mask in dustbin and 27.34% students used to wash the mask for reuse.[Fig-2]

Table V: Frequency and Purpose of going outside during Lockdown Period

Frequency of moved out from home	Number (%)	Purpose of going outside from home*	Number (%)
Daily	14(10.1)	Purchasing vegetables	65(46.76)
Alternate day	4(2.9)	Purchasing groceries/ stationery/milk/fruits	38(27.34)
Twice /thrice a week	7(5)	Meeting people (friends, neighbours, relatives)	2(1.44)
Once in a week	27(19.4)	Office work	5(3.6)
Occasionally	41(29.5)	Exercise	13(9.7)
Never	46(33.1)	Not applicable	46(33.1)

(*multiple response allowed)

When we asked the participants about frequency of going outside, it is noted that one third of them i.e. 46(33.1%) follows the rules of lockdown sincerely by remaining at the home. 41(29.5%) students moved out of home occasionally, whereas 27(19.4%) once in a week and only 14 (10.1%) students moved out daily. Common purpose of going outside was observed for purchasing vegetables/groceries/stationary/milk/fruits by 65(46.76%) and 38(27.34%) the students respectively. [Table V]

Discussion

We have received responses from almost all the participants in first half of the May 2020. Type of risk zone for Novel corona virus is observed to be very dynamic; it changes anytime during the week. Wardha district was declared green zone up to the 10th May 2020, where most of the students are residing during the lockdown. This may be the reason for maximum students responded for green zone during the data collection period. Social Media is playing the major role in making the community aware about the status of COVID-19.

Mass gathering is prohibited to avoid community transmission. This should be clear among the people. Only 38.85% students of Allied health sciences understood the relationship between mass gathering and transmission of infection at community level. It is equally important for a healthy individual to protect from droplets in the air by covering nose and mouth and, for the patient by adopting cough etiquettes. In present study, 61.15% participants responded correctly for coughing and sneezing main route of COVID-19 transmission at individual level. There is need to improve the specific awareness regarding mode of transmission among the students.

Social distancing is core strategy during this lockdown period. Important advice for general public by World Health Organization is to maintain the social distance at least three feet and so everybody should be aware of and follow it sincerely.^[6,9] About three fourth (74.82%) of the participants believed that most essential preventive measures can be taken by general public is social distancing. However it is equally important to understand that everybody is involved in general public and it is the responsibility of each and every person to maintain the said social distance as a preventive measure.

Students were observed to be not sure about personal level responsibility of social distancing and hence only 58.27% students could mark it correctly.

Less than half of the students (47%) were aware about the particular time needed to hand rub by the alcohol based sanitizer i.e. 20 seconds. Though very few students (11%) had chosen safer time i.e. 30 or >30 seconds for hand rub, still near about half of the students were unaware of it and might be practicing unsafe hand hygiene. Such unsafe practices may increase the chances of getting corona virus infection to an individual and community further. No specific vaccine is available for the COVID-19 infection till date. Most of the students were unaware the exact status of vaccine availability, so basic knowledge about COVID-19 disease needs to improve among students.

Various types of information are accessible on social media. However, not all students were accessing this information. Students have common tendency of following academic instructions sincerely. This may be the reason that, few students remain ignored from some of the facts published or shared through social media. In such situation, institution can plan the online session for these students to increase the particular knowledge.

Most of the students responded that, they were maintaining the social distancing. However, first of all one should know the standard or required distance to be maintained to avoid the catch of corona virus infection. As per the guidelines, minimum 3 feet social distance is to be maintained for prevention of corona virus infection.^[10,18,19] More than 3 feet distance is safer, but less than 3 feet distance promotes the transmission of corona virus infection from person to person. In our study, 52(37.41%) were observed to be unaware of minimum social distance to be maintained in the society.

Hand hygiene and use of mask plays vital role in preventing of getting infection. As per WHO, wearing of mask is compulsory for the COVID-19 positive patient to control the diseases spread.^[20] But it is equally important to protect our self from getting infection. One of the measures for it is wearing the mask by healthy or apparently healthy individual to cover nose and mouth.^[21] In the present study only half of the participants were sincerely using mask every time for outdoor activity and about one third (32.4%) were trying to keep up

this practice by following it most of the time. But other students were taking it casually by allowing themselves going outside without covering their nose and mouth. This practice may be harmful for the individual and so for the community. However, students were following safe practice of mask disposal.

WHO recommended frequent hand washing not only at the home but also in outdoor settings.^[22] However, about two-third of studied participants were following the practice of hand hygiene at home sincerely. Some of the students moved out during this lockdown and reason for outing was very rational i.e. for obtaining daily needs.

Conclusion: During this pandemic of COVID-19, it is important to follow some of the practices sincerely and always rather than missing any time. Students are needed to be aware of standard guidelines along with motivate the participants for adoption of safe practices. Our team has shared the important health awareness information which is published by WHO as an 'Advice for Public' among the students of Allied Health sciences.

Research in this area is observed very rare during literature search. It is recommended that, such survey can be conducted among the students of various institutions to assess the awareness and shortfall in practices adopted by them for prevention of COVID-19. So that gap in the knowledge, understanding and practices can be recognised and corrected further through academic learning session. Nowadays, teaching institutions are closed, still online academic teaching is going on. So, we can grab this opportunity to raise the awareness level among the students through dedicated online awareness program.

Ethical Clearance: Done

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Conflict of Interest: None

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