

Original Research Article

Knowledge, attitude and practices towards COVID-19 pandemic in the community: a cross-sectional web-based survey in India

Shruti Shukla, Prerana Deotale*

Department of Community Medicine, Government Medical College, Nagpur, Maharashtra, India

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***Correspondence:**

Dr. Prerana Deotale,

E-mail: prerana.deotale@gmail.com

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ABSTRACT

Background: Coronavirus disease is a current new virulent disease rising its transmission and fatality with each passing day globally. People's observance of the prevention measures is essential for controlling the spread of COVID-19, which is affected by their knowledge, attitude, and practices (KAP) towards COVID-19. The aim of this study was to assess knowledge, attitude, and practices towards COVID-19 in the community in India.

Methods: Present descriptive cross-sectional study was a web-based survey carried out between 15th July and 19th July 2020 among 570 participants in Maharashtra, India. A 30-item questionnaire distributed among the public using Google forms through social media networks.

Results: 97.4% participants knew contact with the infected person as a mode of transmission for COVID-19. Common symptoms of COVID-19 reported were difficulty in breathing (96.3%), fever (90.7%), cough (88.9%), sore throat (82.8%), etc. The majority of participants (>90%) had correct knowledge about preventive measures to stop the spread of COVID-19. Around 80% had a positive attitude that India will win the battle against the disease. More than 90% were practicing appropriate preventive measures while going out.

Conclusions: Majority of the Indian population demonstrated good knowledge, positive attitude, and good practices regarding the COVID-19 pandemic.

Keywords: Attitude, COVID-19, Knowledge, Practice

INTRODUCTION

COVID-19 is an abbreviation for Coronavirus disease 2019 which is an infectious disease caused by a novel virus belonging to the virus family known as Coronavirus. In December 2019, the disease was first identified in Wuhan, the capital of China's Hubei province, which has since spread globally. The virus has been renamed by WHO as SARS-CoV-2 and the disease caused by it as COVID-19.

The disease since its first detection in China has now spread all over the world, with reports of local transmission happening in more than 200 countries/territories.¹ Global health experts and South Asian governments have expressed concern about the

spread of and potential for more than 7.6 million deaths in South Asia if no action were taken.² As per WHO (as of 26th July 2020), there has been a total of 15,745,102 confirmed cases and 639,317 deaths due to COVID-19 worldwide.³ The COVID-19 patients can present with symptoms that varies from asymptomatic forms to clinical conditions that are characterized by respiratory failure and patients may need mechanical ventilation and support in an intensive care unit (ICU). Patients may develop multiorgan and systemic manifestations in terms of sepsis, septic shock, and multiple organ dysfunction syndromes.⁴

COVID-19 cases in India crossed 4, 60,000 on 26th July 2020 with the national tally jumping to 4, 67,882 cases as per the data released by the Ministry of Health and Family Welfare. While 32,063 patients have lost their

lives to the deadly contagion across India. Maharashtra has the highest number of Covid-19 cases in the country with the state tally jumping to 3,66,368 till date. India faces the threat of a serious outbreak due to deep challenges in practicing social distancing and access to water and soap for handwashing, with densely populated urban areas and a highly mobile population in some states.⁵

Implementing personal hygiene and public health behaviours such as handwashing and social distancing are necessary to curb the spread of coronavirus, but it will be challenging to practice these in many cities and rural areas in developing settings.⁶ Without sustained bans on large gatherings (including specific cultural and faith practices such as mass prayer gatherings, large weddings, and funerals) these may create super-spreading events that accelerate transmission.⁷

The knowledge, attitudes, and practices (KAP) toward COVID-19 play an integral role in determining a society's readiness to accept behavioural change measures from health authorities.⁸ To date, there has been limited published data on population knowledge, attitudes and practices toward COVID-19, specifically in India. The objective of the study is to assess the knowledge, attitudes and practices related to COVID-19 in the community.

METHODS

This cross-sectional survey was conducted from 15th July 2020 to 19th July 2020 in Maharashtra, India. An online semi-structured questionnaire was developed by using Google forms that were sent via email, Facebook, WhatsApp to the contacts of the investigators. The link was forwarded to people apart from the first point of

contact and so on. On receiving and clicking the link the participants got auto directed to the information about the study and informed consent. The Ethics Committee of the institute approved the study protocol and procedures before the formal survey.

Participants with access to the internet could participate in the study. The questionnaire was developed in 2 languages i.e. English and Hindi. Participants with age more than 15 years, able to understand English or Hindi, and willing to give informed consent were included.

The questionnaire consisted of four parts: demographic characteristics, knowledge, attitude, and practices. Demographic variables included age, gender, education, occupation, etc. These online questionnaires contained a total of 30 questions among which 9 assessed demographic variables, 14 assessed knowledge, 3 assessed attitudes, and the remaining 4 assessed practice. There were 2 multiple choice questions in the knowledge section, 1 in the practice section, and the rest were single response questions. The descriptive analysis focused on frequencies, percentages, mean and standard deviation have been used to estimate the results of the study.

RESULTS

A total of 572 participants completed the survey questionnaire, 2 were excluded who have not given consent, so the final sample consisted of 570 participants. The average age was 28 years [standard deviation (SD): 10.5, range: 16-70], 290 (50.9%) were female, 467 (81.9%) were urban residents, 450 (78.9%) held a bachelor's degree or above, 232 (40.7%) were students and 291 (51.1%) were employed, 423 (74.2%) had family income above 20000 rupees per month and 388 (68.1%) were living in a nuclear family.

Table 1: Knowledge regarding COVID-19 disease amongst participants.

Knowledge	No.	%	
K1 How does corona virus spread?			
Contact with an infected person	555	97.4	
Sneezing	396	69.5	
Coughing	394	69.1	
Touching	337	59.1	
Through food	160	28.1	
Don't know	2	0.4	
K2 What are the symptoms of COVID-19 disease?			
Difficulty breathing	549	96.3	
Fever	517	90.7	
Cough	507	88.9	
Sore throat	472	82.8	
Runny nose	365	64	
Tiredness	333	58.4	
Body ache	311	54.6	
Don't know	6	1.1	
	Yes	No	Don't know
	No. (%)	No. (%)	No. (%)
K3 Do you think that risk of spread of COVID-19 is from both	511	44	15

Continued.

Knowledge	No.	%	
symptomatic as well as non-symptomatic?	(89.64)	(7.71)	(2.63)
K4 Do you agree that the condition of all COVID-19 infected persons is critical?	156 (27.36)	398 (69.82)	16 (2.80)
K5 Do you agree that the disease is more dangerous in elderly or people with comorbidities like cancer, diabetes, heart and lung disease?	556 (97.54)	10 (1.75)	4 (0.70)
K6 Do you think pregnant women are more at risk towards COVID-19?	418 (73.3)	89 (15.61)	63 (11.05)
K7 Do you agree that currently there is no specific vaccine and treatment for COVID-19?	507 (88.9)	38 (6.66)	25 (4.38)
K8 Do you agree washing hands on a frequent basis is an effective measure to the kill the Corona virus?	541 (94.9)	23 (4.03)	6 (1.05)
K9 Do you agree that isolation and quarantine are an important step to stop the spread of Corona virus?	554 (97.2)	6 (1.05)	10 (1.75)
K10 Do you agree that social distancing, early screening and symptomatic treatment are important measure to stop the spread of the corona virus?	557 (97.7)	7 (1.22)	6 (1.05)
K11 Do you think that eating non-vegetarian food is responsible for the spread of COVID-19?	88 (15.43)	424 (74.4)	58 (10.17)
K12 Do you agree that eating citrus fruit and gargling with salt water can help prevent infection with the Corona virus?	331 (58.1)	167 (29.29)	72 (12.63)
K13 Do you think that drinking alcohol can prevent you from COVID-19?	25 (4.38)	502 (88.07)	43 (7.54)
K14 Can I get COVID-19 from my pet or other animal?	150 (26.31)	345 (60.52)	75 (13.15)

Table 1 shows the knowledge regarding COVID-19 disease among participants. Route of spread cited by the majority of participants were contact with infected persons (97.4%), sneezing (69.5%), coughing (69.1%), touching (59.1%), and through food (28.1%). Common symptoms of COVID-19 reported were difficulty in breathing (96.3%), fever (90.7%), cough (88.9%), sore throat (82.8%), runny nose (64%), tiredness (58.4%) and body ache (54.6%).

Most of them were aware of the fact that there is a risk of the spread of COVID-19 from both symptomatic as well as non-symptomatic. More than 50% knew that that the condition of all COVID-19 infected persons is not critical. 97.5% of participants agreed that the disease is more dangerous in the elderly or people with comorbidities like cancer, diabetes, heart, and lung disease whereas 73.3% think that pregnant women are more at risk towards COVID-19. The fact that there is no specific vaccine and treatment for COVID-19 was known to 88.9% of participants.

The majority of participants (>90%) have correct knowledge about preventive measures to stop the spread of COVID-19 like washing hands on a frequent basis is an effective measure to the kill the Coronavirus was known to 94.9% of participants. Participants also agreed with the fact of social distancing, early screening, quarantine, isolation, and symptomatic treatment as an important measure to stop the spread of the coronavirus.

Around 15% of participants think that eating non-vegetarian food is responsible for the spread of COVID-

19. As many as 58% were in the opinion of eating citrus fruit and gargling with salt water to prevent infection with the Coronavirus. Only 4.3% agreed that drinking alcohol can prevent them from COVID-19 and 26.3% believed that COVID-19 could spread from pets or other animals.

Table 2: Attitude towards COVID-19 in amongst participants.

Attitude	Yes No. (%)	No No. (%)
A1 In recent days, have you visited to any crowded places like vegetable market?	119 (20.87%)	451 (79.12%)
A2 Are you confident that the India will win the battle against COVID-19?	462 (81.05%)	108 (18.94%)
A3 Do you agree that lockdown is an effective measure to prevent the spread of COVID-19?	410 (71.9%)	160 (28.07%)

Table 2 represents attitude towards COVID-19 in the community. More than three fourth of participants (79.1%) had not been to any populated place recently. Around 81% of participants believed that India will win the battle against COVID-19. Moreover, 71.9% agreed with the idea of lockdown to prevent the spread of COVID-19.

Table 3 depicts practices among the population regarding COVID-19. The majority of participants are following

proper preventive measures while leaving home like wearing masks (97.2%), social distancing (95.3%), hand hygiene (91.2%), etc. Around 58% of participants denied

the idea of groceries and medicines stocking. 80% of participants were feeling more bonded to their family and friends in the duration of lockdown.

Table 3: Practices in community towards COVID-19.

Practices	No.	%
P1 What kind of preventive measures you take while leaving home?		
Wear mask	554	97.2
Social distancing	543	95.3
Hand wash with soap or sanitizer	520	91.2
Avoid shaking hand & hugging as a matter of greeting	519	91.1
Avoid public spitting	511	89.6
Sneezing in elbow or shoulder or using handkerchief	505	88.6
None	2	0.4
	Yes No. (%)	No No. (%)
P2 Do you agree with the idea of groceries and medicines stocking?	235 (41.22%)	335 (58.8%)
P3 Do you feel more bonded to your family and friends in the duration of lockdown?	461 (80.87%)	109 (19.12%)
P4 Do you dispose mask when it becomes moist or atleast 8 hours after wearing?	515 (90.35%)	55 (9.64%)

DISCUSSION

COVID-19 is a relatively new virus that has had devastating effects within the short time, it has brought chaos to lives and economics around the world. All epidemics and pandemics have their unique characteristics in terms of causality, progression, and control measures. It is crucial to provide health education and create awareness during such situations for effective prevention of disease spread.⁹

In the present study, the knowledge, attitude, and practice in the community towards COVID-19 were assessed. Since most of the participants in our study were educated- either graduate or post-graduate (78%), participants had a fair level of awareness regarding COVID-19. This finding is consistent with other studies that have shown satisfactory levels of knowledge.^{10,11} The majority of the participants in our study were aware that COVID-19 spreads through contact with infected person (97.4%) which is higher in our country as compared to a Malaysian study.⁸ But many participants were not that aware of other modes of spread like sneezing, coughing, etc. Most of the participants have good knowledge about common symptoms of COVID-19 and similar findings were reported by other authors also.^{8,12}

Another significant finding noted that around 58% have myth of eating citrus fruit and gargling with salt water to prevent infection with the Coronavirus which is in concordance with the study done by Tomar et al (62%).¹² According to WHO gargling warm or saltwater and consuming citrus fruits will not kill the novel-corona virus.¹³

Most of the participants had a positive and optimistic attitude that COVID-19 will be eliminated and had a certainty that we can win the fight against the infection. Around 81% of participants are convinced that India will win the battle against COVID-19 which is lesser than other studies.^{14,15}

Only 71.9% agreed with the idea of lockdown to prevent the spread of COVID-19 whereas 96% were agreed in a study conducted in Rajasthan.¹² This variation can be explained by the difference in duration in which the study was conducted, later was conducted during March-April 2020.

Positive attitudes and confidence in the control of COVID-19 can be explained by the government's unprecedented actions and prompt response which include the lockdown, and the suspension of all domestic and international flights, prayer at mosques, schools and universities, and the national curfews imposed on citizens to ensure citizen's wellbeing.¹⁵

This attitude could have attributed to positive practice. More than 90% of participants followed appropriate preventive measures like wearing masks, social distancing, hand washing etc. which is consistent with other studies also.^{16,17} This practice is primarily due to strict measures taken by the government to prevent the overwhelmed wave of new infection whereas secondly due to awareness, acceptance, and action of people with good knowledge.¹²

There is limited access to internet in rural areas and in elderly population, therefore results cannot be generalized to the whole population.

CONCLUSION

Although the majority of study participants have good awareness towards COVID-19 symptoms, its spread, and also have good practice towards preventive measures, still there is scope for health promotion activities in improving knowledge, attitude, and practices towards COVID-19 with focus on consistency of information from the government and related authorities. The survey also gives a general picture of the population, COVID-19 prevention practices and this can better prepare the government to address future health crises involving infectious diseases.

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