Journal of Communicable Diseases - Special Issue on COVID-19
Volume 52, Issue 2 - 2020, Pg. No. 32-37
Peer Reviewed & Open Access Journal

Research Article

A Descriptive Study to Assess the Knowledge and Expressed Practice of Community regarding Prevention of Corona Virus Disease

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DOI: https://doi.org/10.24321/0019.5138.202011

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How to cite this article:
Rani S, Bhattacharya S, John A, Dagar P. A Descriptive Study to Assess the Knowledge and Expressed Practice of Community regarding Prevention of Corona Virus Disease. *J Commun Dis* 2020; 52(2): 32-37.

Date of Submission: 2020-05-16
Date of Acceptance: 2020-06-25

A B S T R A C T

Introduction: In December 2019, a novel coronavirus called SARS-CoV-2 resulted in the outbreak of a respiratory illness known as COVID-19. The novel Coronavirus, 2019-nCoV, has been identified as the cause of outbreak of the pandemic that originated in Wuhan, China, and in quick succession spread to several other countries around the world.

Objective: The study was taken up to assess the knowledge and practice of community regarding prevention of Corona Virus Infectious Disease, to seek relationship between knowledge and practice regarding prevention of Corona virus disease and to seek association of knowledge and practice with selected demographic variables.

Method: The quantitative approach was adopted for the study with a descriptive survey design. Research variables were knowledge and expressed practice of community regarding prevention of COVID-19. The sample comprised of 503 people, selected through purposive sampling technique. An online survey was conducted to collect the data by using a structured questionnaire to assess knowledge and expressed practice regarding prevention of COVID-19. The data was analysed using descriptive and inferential statistics.

Result: The majority of the subjects i.e. 62.4% were in the age group of young adults 18-35 years, 50.1% were male and 83.7% of them studied up to graduation or more. 98.8% of the subjects had adequate knowledge and 99.8% had appropriate expressed practice regarding prevention of corona virus disease. This indicates that community has good knowledge and practice as expressed by them. There was significant association between the knowledge of community regarding prevention of corona virus disease with selected demographic variables i.e. age, educational status and source of information. Further, findings showed that there was a positive correlation between the knowledge and practice of community regarding prevention of COVID 19.

Conclusion: Study concludes that community has adequate knowledge and appropriate level of practice regarding prevention of corona virus disease.

Keywords: Knowledge, Practice, Corona Virus Disease Prevention

Introduction

A novel coronavirus called SARS-CoV-2 has resulted in the outbreak of an illness known as COVID-19. The corona virus disease has been identified as an outbreak of respiratory illness in Wuhan, Hubei Province, China beginning in December 2019. By January 31, 2020, this epidemic had spread to 19 countries with 11 791 confirmed cases, including 213 deaths. The World Health Organization declared it a Public Health Emergency of International Concern. COVID 19 has been characterized as a pandemic on March 12, 2020.[1]

Outbreak occurred in December, 2019 in China, while first confirmed case of the disease in india was reported on January 30, 2020. The coronavirus is a virus that is found in animals and, sometimes, can be transmitted from animals to humans and then spread from one person to another person.[2] Corona Virus Infectious Disease-19 (COVID-19) is an infectious disease caused by a new or mutated virus. The disease causes flu like symptoms such as cough, fever, headache, confusion, feeling sleepy, lethargy, and weakness and in more severe cases, difficulty breathing. Corona Virus Infectious Disease primarily being respiratory illness spreads through contact with an infected person when they cough or sneeze. It also spreads when a person touches a surface or objects (fomites) that has the virus on it, and then touches his eyes, nose, or mouth.[3]

All the government and non- governmental health care organizations got alarmed by the situation and social media platforms got flooded by the information regarding nature of this disease. Print, broadcast and internet played a crucial role in disseminating information about the spread and prevention of COVID-19. And in such an unprecedented situation, health care workers started helping the currently healthy, vulnerable, sick community besides the victims of COVID 19. Everyone witnessed the power of information, health education in fighting with the disease. Among the important measures suggested curbing the spread of the disease included wearing mask, social distancing and frequent hand washing with soap and water or alcohol based hand rubs or sanitizers. Another strategy adopted by the government was imposing lockdown in the country to check the spread of the disease.

In the voluntary as well as imposed lockdown period there was continuous news of violating the advisories put forward by the Government of India, researchers decided to conduct an online survey to assess the knowledge and practice of people about COVID 19. Study further aimed at seeking the relationship between knowledge and practice and their association with background variables. Online mode was chosen keeping the fact in mind that in India there are 629 million active mobile internet users, out of which, 337 million are there in urban areas of India. Region wise Delhi NCT has highest internet penetration rate followed by other metropolitan cities.[4]. Almost all countries had been affected by this deadly yet preventable disease till the time the study was undertaken. Number of people infected and dying was rising day by day leaving mankind helpless and locked down in their households to a great extent.

Methodology

The quantitative approach was adopted for the study with a descriptive survey design. Research variables were knowledge and practice of community as expressed by them regarding prevention of Corona Virus Disease. The sample comprised of 503 people, both male and female in any age group in any part of India, through purposive sampling technique. The study was delimited to the subjects, who had access to a smart phone, were internet users and were able to comprehend English and willing to participate in the study. The time period chosen for the study was mid-April, 2020 i.e. after about one month of lockdown in India.

An online survey technique was used to collect data by using a structured questionnaire to assess knowledge and practice regarding prevention of corona virus disease. Tool comprised of three sections; section I consisted of background data of subjects, section II comprised of questions pertaining to knowledge about COVID 19 including seven multiple choice questions and section III consisted of seven statements about practice. All the items in the knowledge questionnaire were scored and one point was assigned to each item for a correct response. A score 0 was allotted for each wrong response. The practice questionnaire consisted of statements against which they had to choose Yes or No. For correct practice, one point was assigned and for each wrong answer 0 was allotted. After giving consent to take the survey, subjects proceeded to the next section of the tool. If they gave the consent, only then they could proceed to the questionnaire. All the items in the tool were mandatory to answer before submission of the tool as incomplete questionnaire could not be submitted. To ensure the validity of the content, the tools were submitted to the five experts from the field of nursing, community medicine, sociology and community health nursing. Their suggestions were incorporated and tools were modified accordingly. The reliability of structured knowledge questionnaire was established by using K.R -20 formula and was found to be highly reliable i.e. 0.87. The reliability of structured practice questionnaire was established by using Cronbach Alpha test and was found to be highly reliable i.e. 0.89. Average time taken to respond to both the tools was around 5 minutes.

Once the tool was ready as Google Form, it was shot to a total of 1785 internet users by all researchers. A gentle reminder was sent to all of them after 3 days as a result of which 503 responded. Response rate was calculated to be as 28.2%. Descriptive and inferential statistics were employed to analyze the data.

ISSN: 0019-5138
DOI: https://doi.org/10.24321/0019.5138.202011

Result

Section I:

Description of the sample characteristics is given in table 1.

Table 1.Frequency and percentage distribution of background profile of people by their demographic characteristics

n=503

S. No.	Sample characteristics	Frequency	Percentage %
1.	**Age (in years)**		
	Children <18	40	7.9
	Young Adult 18-35	313	62.4
	Middle Aged Adult36-55	125	24.8
	Older Adult >55	25	4.9
2.	**Gender**		
	Male	252	50.1
	Female	250	49.7
	Trans-gender	1	0.2
3.	**Educational Status**		
	Primary education(1-5th standard)	3	0.6
	Secondary Education (6-10th standard)	13	2.6
	Senior Secondary Education(11-12th standard)	66	13.1
	Graduate or above	421	83.7
4.	**Occupation**		
	Government	24	4.8
	Private	210	41.7
	Self employed	101	20.1
	Home maker	168	33.4
5.	**Source of Information**		
	Television	37	7.3
	Family and friends	29	5.8
	WhatsApp	93	18.5
	Social Media	27	5.4
	All of the above	317	63

In addition to the data given in table 1, 100% participants had heard of the disease. Subjects who participated in the study were from 20 states/ union territories out of 37 states/union territories of India.

Section II

Description of the knowledge and practice of people regarding COVID 19 is given in table 2.

Table 2.Knowledge and Practice Scores of Community regarding COVID 19

n=503

Variable	Possible range of score	Obtained range of score	Mean	Standard deviation
Knowledge score	0-7	1-7	6.041	1.104
Practice score	0-7	3-7	6.061	0.552

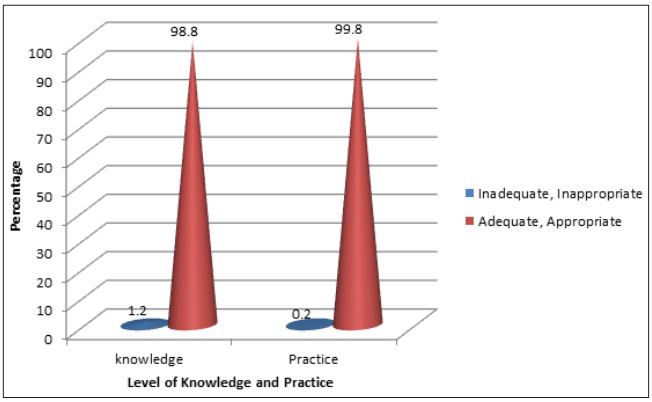

Figure 1.Cone diagram showing percentage distribution of knowledge and practice of community regarding prevention of corona virus disease

Section III

Description of the knowledge and practice of people regarding COVID 19 is given in table 3.

Table 3.Co-efficient of correlation between knowledge & practice scores of community regarding COVID 19

n=503

Category	Variables	Mean	r
Community	Knowledge score	6.041	1*
	Practice score	6.061	

For df (502) at 0.05 level table value of 'r'=0.073.

The computed 'r' value 1 indicates a strong positive significant correlation between the knowledge and practice of community regarding COVID 19. Thus, it can be concluded that community at large had adequate knowledge and appropriate practice towards the disease.

It is evident from Table 4, that majority of the surveyed population was in the 18-35 age group and majority of them were college graduates. There was a positive correlation with the subjects' knowledge regarding the viral pandemic

ISSN: 0019-5138
DOI: https://doi.org/10.24321/0019.5138.202011

of COVID-19 and their educational status. It is possible, that this was also driven by information available on the internet. We could not establish the same in our present study and can be looked into in a future analysis. No significant association was established between the subjects' knowledge and their gender and or occupation. Table 5 indicates that practice and all four demographic variables of age, gender, educational status and occupation had no correlation.

Table 4.Fisher exact test to seek association of knowledge regarding prevention of corona virus disease with selected demographic variables

n=503

Demographic Variables	Level of knowledge score		d.f	'p' value	Fisher exact value
	0-2 (Inadequate)	3-7 (Adequate)			
Age (in years)					
Children <18	3	37	**3**	0.0024	14.42*
Young Adult 18-35	3	311			
Middle Aged Adult36-55	0	125			
Older Adult >55	1	23			
Gender					
Male	5	255	2	0.5741	1.11
Female	2	240			
Trans-gender	0	1			
Educational Status					
Primary education(1-5th standard)	1	2	3	<.0001	72.3*
Secondary Education (6-10th standard)	3	10			
Senior Secondary Education (11-12th standard)	2	63			
Graduate or above	1	421			
Occupation					
Government	2	50	3	0.4105	2.88
Private	3	206			
Self employed	1	100			
Home maker	1	140			

Table 5.Fisher exact test to seek association of expressed practice regarding prevention of Corona Virus Disease with selected demographic variables

n=503

Demographic Variables	Level of practice score		d.f	'p' Value	Fisher exact value
	0-2 (Inappropriate)	3-7 (Appropriate)			
Age (in years)					
Children <18	0	40	3	0.8941	0.61
Young Adult 18-35	1	312			
Middle Aged Adult36-55	0	125			
Older Adult >55	0	25			
Gender					
Male	1	251	2	0.6065	1
Female	0	250			
Trans-gender	0	1			

ISSN: 0019-5138
DOI: https://doi.org/10.24321/0019.5138.202011

Educational Status					
Primary education(1-5th standard)	0	3	3	0.9776	0.2
Secondary Education (6-10th standard)	0	13			
Senior Secondary Education (11-12th standard)	0	66			
Graduate or above	1	420			
Occupation					
Government	0	24	3	0.5724	2
Private	0	210			
Self employed	0	101			
Home maker	1	167			

Discussion

The finding of this present study revealed that most of the subjects had adequate knowledge and appropriate practice regarding prevention of COVID-19 with more number of subjects having better practice than knowledge. This is in contrast to the normal belief that practice scores are lesser than the knowledge score. This may be attributed to the higher educational standards of the subjects, better access to internet and wide spread information through media.

The result of the current study is similar to the cross sectional study conducted by Zhong BL et al.,[5] to assess the knowledge, attitude and practice on COVID- 19 in China. In their study the overall correct rate of the knowledge questionnaire was 90% and 98% of the participants had good practice score whereas in the present study it shows that 98.8% of community had adequate knowledge and 99.8% of the subjects expressed that they have been practicing appropriately regarding prevention of Corona virus diseases. High scores of knowledge and practice may be due to widespread information about the said disease by media. Current study also revealed that majority of the subjects got the information about COVID 19 through WhatsApp in addition to the print media and television.

The finding of the present study are partially in line with the study conducted by Nour MO[6] et.al which assessed the Knowledge, attitude and practices of healthcare providers towards Middle East Respiratory Syndrome Corona Virus (MERS-CoV) infection at Makkah hospitals. In their study findings revealed that only one third of them (32.4%) acquired good knowledge about the infection as against the present study which shows the adequate knowledge i.e. 98.8%of community regarding prevention of Corona Virus Disease 19. In their study, 87.9% reported good practice which is close to present study finding that 99.8% had appropriate expressed practice score. Higher knowledge scores in the current study may be the result of the fact that only reasonably literate and tech- savvy people participated in the online survey. Also, due to global expansion of the disease, a whole lot of information was available on all social media.

The finding of the current study is consistent with the cross sectional study conducted by Ahmed M.et.al[7] to assess the knowledge, attitude and practices towards Middle East Respiratory Syndrome Corona Virus among physicians, nurses, pharmacist and technicians at King Khalid University Hospital, Riyadh, Saudi Arabia. Their result also revealed good knowledge among physicians (95.7%), pharmacists (88.9%), nurses (86.2%) and technicians (91.4%); however in they showed average practice towards MERS. In the present study, an appropriate expressed practice score was of 99.8% of subjects regarding prevention of Corona Virus Disease. This higher level of practice can be partially attributed to the higher education standards or the internet knowledge of the subjects.

Limitations

The study had a few inherent limitations such as people who had access to smart phone, internet friendly users, well versed with English language people only could participate in the survey. Most of the information available on Internet is in English, so the study participants were better informed about disease prevention. Despite having representation from 20 states/union territories, it broadly represents urban population. The study didn't look if the knowledge and or safe practice is being driven by internet knowledge or by educational knowledge.

Conclusion

Study concludes that community has adequate knowledge and appropriate level of expressed practice regarding prevention of Corona Virus Disease 19. The study findings may become the basis of further policy making by the health care administrators. Also, similar studies may be taken up targeting rural population.

Conflict of Interest: None

ISSN: 0019-5138
DOI: https://doi.org/10.24321/0019.5138.202011

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ISSN: 0019-5138
DOI: https://doi.org/10.24321/0019.5138.202011