

**Original research article****Descriptive cross-sectional survey to assess the adequacy of knowledge towards COVID-19 pandemic****Dr. Amit Vasant Deshpande**

Associate Professor, Department of Community Medicine, Mamata Medical College, Khammam, Telangana, India

**Corresponding Author:**

Dr. Amit Vasant Deshpande

**Abstract**

**Aim:** To determine the level of knowledge towards COVID-19 among people. **Material & Methods:** A cross-sectional descriptive research design was used for the present study a total of 421 people were recruited for this study and sample of 400 eligible people who fulfilled the inclusion criteria were enrolled. **Results:** The association of socio-demographic variables of participants and their knowledge score. It shows that group ( $p>0.001$ ), gender ( $p=0.020$ ), education ( $p=0.001$ ), marital status ( $p=0.001$ ), age ( $p=0.020$ ), and inhabitants ( $p=0.001$ ) were significantly associated with knowledge. Majority of participants 63% having good knowledge while 33% and 1.4% having average and poor knowledge respectively regarding the corona virus pandemic. **Conclusion:** Study concluded that many people were still had average and poor knowledge on COVID-19. Higher authorities must find the ways for making people more aware on this pandemic to control its impact.

**Keywords:** COVID-19, knowledge, people**Introduction**

The severe acute respiratory illness caused by the coronavirus (COVID-19) was first identified in a patient in Wuhan, Hubei Province, China in December 2019<sup>[1]</sup>. Acute respiratory syndrome coronavirus-2 (SARS-CoV-2) is the name given to the infectious agent, which was formerly known as novel coronavirus (nCoV)<sup>[2]</sup>. Infections with this extremely infectious zoonotic virus began in a tiny city and quickly spread to much of the world, resulting in a worldwide health crisis. On March 12, 2020<sup>[3]</sup> the World Health Organization (WHO) proclaimed the outbreak a worldwide pandemic and called for a coordinated response. As of 12 February 2022<sup>[4]</sup>, the regularly updated COVID-19 situation dashboard showed a total of 40, 49, 10, 528 confirmed cases and 57, 83, 776 fatalities worldwide due to this devastating virus.

The first incidence of COVID-19 in India was reported on January 27 in Trissur, Kerala, in a 20-year-old woman who had recently returned from a trip to China<sup>[5]</sup>. Rapid intercity and intercity travel accelerated the spread of COVID-19 in India, and the virus soon reached the country's main cities. Government intervention, including the ban of foreign travel, contact tracing, containment, and mitigation initiatives, was launched in response to the rising number of confirmed cases. Despite the preventative efforts, the number of confirmed cases of the virus rose to 4,258,644 as of February 12, 2022<sup>[6]</sup>.

Transmission of COVID-19 is fast and can occur through intimate contact with an infected individual<sup>[7-11]</sup>. Information on the illness is always changing. Therefore, this could not be the only mode of transmission. Many people's lives are in danger as the deadly COVID-19 virus has swiftly spread from Wuhan city to other regions of the world<sup>[12]</sup>. At the end of January 2020, the WHO declared a public health emergency of worldwide significance and urged all nations to work together to stop the epidemic before it spread. WHO called COVID-19 a "global pandemic"<sup>[13]</sup> later on.

The current COVID-19 pandemic calls for widespread public education and preparation in order to prevent the spread of the disease and regain control. In order to learn more about people's beliefs and worldviews, it is important to gauge how much they know about COVID19. Health care providers and policymakers may then focus their efforts where they are most needed, and new rules and regulations can be enacted in light of the public's actual understanding and behaviour. Therefore, the purpose of this study is to assess people's familiarity with COVID-19.

**Material & Methods**

A cross-sectional descriptive research design was used for the present study. This study was approved by the Mamata Medical College Institutional ethics committee. Informed written consent for voluntary participation was taken from each participant, and they were assured for the confidentiality of

information and anonymity of informants.

### Sample size

A total of 421 people were recruited for this study and sample of 400 eligible people who fulfill the inclusion criteria were enrolled.

Inclusion criteria for participation in the study was participant's willingness and ability to use internet.

### Data collection

Data were collected through online survey. The sample was selected by non-probability sampling (voluntary sampling). All the participants were explained about the purpose of the study and instructed to fill the form completely. Participants' consent was secured and they were made assured that their anonymity will be maintained.

The Questionnaire was adapted from "the current interim guidance and information for people" published by WHO. A modified form of standardized questionnaire by WHO, considering the countrywide variations was used as tool. It was consisted of closed ended questions and was divided into two sections viz., socio-demographic variables which include age, gender, marital status, batch/year (for students), monthly income (in rupees), educational status, residence, work experience (for faculty), job detail-post (for faculty), current health status, marital status, religion, type of family while second section assess research variables (knowledge) which include total items. The minimum and maximum scores were 0 and 40 respectively. Scores between 29 to 40; 21 to 28 and below 20 were categorized as good, average and poor knowledge respectively

### Data analysis

All data were coded, entered and analyzed using statistical package for social science (SPSS) version 23 and made meaningful by standard statistical measures. Descriptive statistic comprised frequency, percentage, mean and standard deviation. Inferential Statistic was including ANOVA, Independent t test, linear and logistic regression.

### Results

Table 1 reflects that majority of participants (89.2%) were of age group 16-30 years and mostly (91%) were female. High numbers of participants (84.2%) were students and 74.7% pursuing graduate programme. More than two third (77.2%) of participants belongs to Hindu religion and 88.2% were unmarried. Almost half (50.2%) of participants belong to rural area and 36.5% participants living in area of 5,000 inhabitants and 33.2% subjects having no idea of population of their area. Nuclear family type is shared by two third (63.5%) participants and 71.2% participants having 3-8 family members. Nearly all 92% of participants were free from any chronic illness.

Table 2 represent the association of socio-demographic variables of participants and their knowledge score. It shows that group ( $p>0.001$ ), gender ( $p=0.020$ ), education ( $p=0.001$ ), marital status ( $p=0.001$ ), age ( $p=0.020$ ), and inhabitants ( $p=0.001$ ) were significantly associated with knowledge.

Figure 1 showed that majority of participants 63% having good knowledge while 33% and 1.4% having average and poor knowledge respectively regarding the corona virus pandemic.

Figure 2 present participants' knowledge scores on different aspects related to COVID-19 and study found that majority of participants had poor knowledge on COVID-19 susceptibility (88%) and diagnosis (79%) while majority of them had good knowledge on COVID-19 spread (79%), incubation period (86%), treatment (78%) and prevention (78%).

**Table 1:** Frequency and percentage of Socio demographic variables of participants

Socio-demographic variables	Categories	Frequency	Percentage (%)
Group	Students	337	84.25
	Faculty	63	15.75
Age (years)	16-30	357	89.25
	31-45	28	7
	46-60	6	1.5
	61-75	3	0.75
Gender	Male	36	9
	Female	364	91
Education	Graduate program	299	74.75
	Post-graduate program	60	15
	Doctorate program	41	10.25
Religion	Hindu	309	77.25
	Muslim	38	9.5
	Sikh	49	12.25
	Buddhist	2	0.5
	Christian	2	0.5

Place of living	Rural	201	50.25
	Urban	138	34.5
	Semi-urban	61	15.25
Marital status	Married	47	11.75
	Unmarried	353	88.25
Type of family	Nuclear	254	63.5
	Joint	146	36.5
Number of family members	<3	40	10
	3-8	285	71.25
	9-14	59	14.75
	>14	16	4
Inhabitants	5,000	146	36.5
	5,001-20,000	58	14.5
	20,001-100,000	23	5.75
	100,001-500,000	13	3.25
	>500,000	27	6.75
	Do not know	133	33.25
Chronic illness	Yes	32	8
	No	368	92

Table 2: Association of Socio-demographic variables of participants with Knowledge scores

Sociodemographic variables	Categories	Mean ± SD	F/t value	P value
Group	Faculty	33.5 ± 3.71	-5.71	<0.001*
	Students	30.22 ± 3.61		
Age (years)	16-30	29.2 ± 3.88	4.91	0.020*
	31-45	34.2 ± 4.81		
	46-60	29.0 ± 7.22		
	61-75	33.1 ± 0.78		
Gender	Male	32.1 ± 3.71	-3.83	0.005*
Education	Female	29.3 ± 4.71		
	Education	34.2 ± 0.80		
Education	Engineering	28.4 ± 5.83	8.78	<0.001*
	Graduate program	28.7 ± 3.80		
	Post-graduate program	30.2 ± 3.72		
Religion	Doctorate program	30.6 ± 3.12	0.281	0.762
	Hindu	29.0 ± 3.74		
	Muslim	29.8 ± 2.61		
	Sikh	29.2 ± 3.61		
	Christian	28.0 ± 2.73		
Place of living	Buddhist	28.7 ± 4.33	2.14	0.382
	Urban	29.81 ± 3.29		
	Rural	28.7 ± 3.20		
Marital status	Semi-urban	28.5 ± 3.17	4.63	0.001*
	Married	33.2 ± 4.63		
Type of family	Unmarried	30.8 ± 3.32	0.271	1.681
	Nuclear	31.7 ± 3.66		
Number of family members	Joint	30.2 ± 4.79	1.26	0.683
	<3	33.6 ± 3.08		
	3-8	29.7 ± 3.76		
	9-14	28.7 ± 3.51		
Inhabitants	>14	26.8 ± 2.69	8.90	0.001*
	5,000	29.7 ± 129		
	5,001-20,000	28.6 ± 44		
	20,001-100,000	29.6 ± 25		
	100,001-500,000	31.3 ± 16		
Chronic illness	>500,000	30.7 ± 23	1.26	0.371
	Do not know	27.92 ± 129		
Chronic illness	Yes	30.6 ± 3.18	1.26	0.371
	No	29.3 ± 3.88		

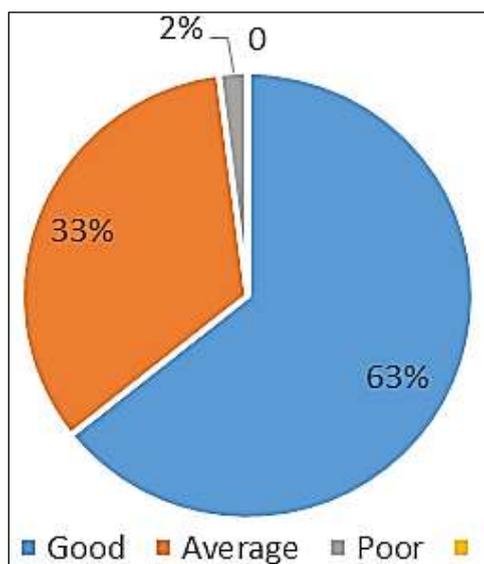


Fig 1: Participants' overall knowledge regarding COVID-19

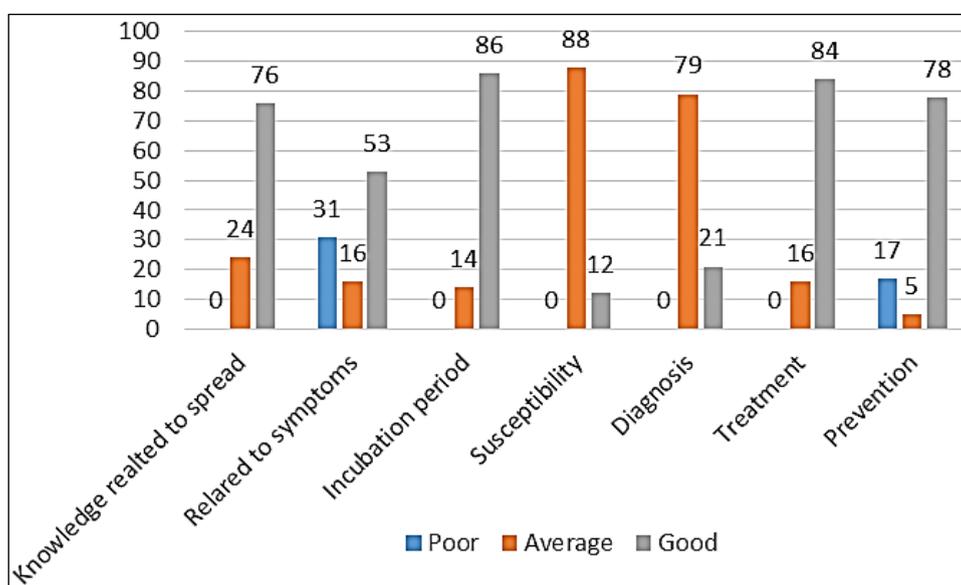


Fig 2: Participants' knowledge on different aspects of COVID-19

**Discussion**

Based on our findings, 63.2% of participants felt confident in their ability to limit the spread of COVID-19. This confirms the results of research conducted in China, India, and Saudi Arabia [14-17]. Knowledgeable individuals may be the result of the modern world's extensive information network and their own high levels of education. More than two-thirds (64.9%) of participants had an optimistic outlook, which was consistent with findings from research in China, India, Vietnam and Saudi Arabia (cited in [14-17]).

Age, gender, amount of education, and income were all found to be significant determinants of participant knowledge. Other research have indicated that older respondents, female respondents and respondents with higher levels of education are more informed about new communicable illnesses [18, 19]. According to Beier *et al.*, those with higher incomes tend to have greater familiarity with COVID-19. Knowledge is strongly correlated with demographic factors including education, age, and income [20].

Some suspicion regarding the high transmission of SARS-CoV-2 in India was obvious due to the respondents' moderate attitude towards the existing healthcare system and their responses to the question "you or your family will get Coronavirus disease (COVID-19) in the next 1-2 months". Fair awareness in many nations and positive attitudes among many people were reported by a survey of 22 countries [21]. However, a sizable proportion of the investigated population exhibited limited understanding of the symptoms and therapy. Findings from the knowledge and attitude dimensions point to the need for a more targeted awareness and communication programme during COVID-19.

Rugarabamu demonstrated excellent COVID-19-related literacy, optimism and prudence [22]. Bao-Liang Zhong said that middle-and upper-class Chinese citizens and especially women, have a good

understanding of COVID-19, a positive outlook on it, and good hygiene habits <sup>[23]</sup>. Khanz *et al.* found that respondents' knowledge, attitudes, and behaviours towards COVID-19 were all above average (n=386). The mean attitude score was 8.43 and the standard deviation was 1.78 <sup>[24]</sup>. Similar results were found in the present investigation, with 60% of individuals revealing good knowledge and over 80% of the sample rating their own knowledge as good.

Higher levels of knowledge were related with individuals who acquire information through TV and radio, suggesting a substantial relationship between these two mediums and the respondents' outlook and knowledge. This might be because, despite the rise of social media platforms like Facebook, YouTube, Instagram, etc., traditional media like television and radio continue to have high levels of trust and credibility among their audiences [25]. In addition, the level of education (p 0.001), the location of employment (p 0.001), and the amount of monthly income (p 0.005) are all demographic characteristics that are associated with the level of knowledge, while only "support from palika" is found to be associated with the level of knowledge (p 0.045) among the enabling factors <sup>[26, 27]</sup>.

### Conclusion

The study found that the general public's understanding of COVID-19 remained middling at best. In order to mitigate the effects of this epidemic, it is imperative that higher authorities develop means of raising public awareness.

This at-risk group may be more likely to develop COVID-19, thus health education initiatives should focus on them specifically.

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