

## Assessment of Knowledge among Nepalese Web Users about COVID-19

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### ABSTRACT

**Introduction:** Coronavirus disease 2019 is a highly pestilent global pandemic caused by severe acute respiratory syndrome coronavirus 2, destroying various walks of human life where the only ray of light coming through can be seen in the form of the vaccine. Nepal, having limited resources and vaccine doses, is distributing them based on immediate requirements. One's right attitude and practices toward the current issue determined by their knowledge and awareness is the need of the hour. Awareness and right knowledge about the magnitude of damage this disease can cause, the methods of its spread, the incubation period, and the right time to seek medical help can make people conscious and adopt preventive practices which can be life-saving for themselves as well as the society in a time when the vaccine is not available for all. **Aims:** To assess the knowledge Among Nepalese web users about COVID-19 **Methods:** A descriptive web-based cross-sectional survey was conducted among the 464 web users of Nepal. **Results:** Out of 464 participants, there were 143 male per 100 females. The average knowledge score observed in females was 75.4% whereas for male was 73.2%. The average knowledge score of people of age below 18 years, 18-30 years, 30-60 years, and above 60 years was 45.83%, 75.39%, 67.73%, and 69.06% respectively. It was 73.33% in the postgraduates, 76.8% in the graduates, and 59.48% in the illiterates. **Conclusion:** The Nepalese web users were knowledgeable about COVID-19. Females had more knowledge about COVID-19 than males. People in the age group 18 to 30 years were more knowledgeable compared to other age groups.

**Keywords:** Awareness, COVID-19, Knowledge, Nepalese Residents, SARS-CoV-2

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### INTRODUCTION

The COVID-19 disease also called SARS CoV-2 is a viral disease that has led to the ongoing pandemic changing the lives and course of human behavior entirely from what it was about three years ago.<sup>1</sup> This disease leaped at humans at one of the wet markets in Wuhan, China.<sup>2,3</sup> It was declared a pandemic by the World Health Organization on the 11<sup>th</sup> of March, 2020.<sup>4,5</sup> This virus has an airborne transmission with about an incubation period of five days to two weeks with its key symptoms being fever, dry cough, shortness of breath and may lead to even severe complications like pneumonia, gastroenteritis and even some central nervous system manifestations.<sup>6,7-9</sup> The first positive case of COVID-19 in Nepal was confirmed on the 13<sup>th</sup> of January, 2020.<sup>10</sup> The disease led to an exponential increase in the number of cases for which lockdown was imposed.<sup>11</sup> During these times when people were away from each other, knowledge and awareness about this Pandemic came to them via different media, platforms, and government initiatives were taken to make everyone know about the necessary

precautions like wearing masks, usage of sanitizers, limited public interactions and the benefits of getting vaccinated, that were required to be taken to prevent themselves and others from encountering this baneful disease.<sup>12</sup> This study aims is to access the knowledge among web users of Nepal about COVID-19. It can be useful in identifying needs, problems, and barriers to help plan and implement interventions for the prevention and control of COVID-19.

### METHODS

A descriptive web-based cross-sectional survey was conducted among the web users of Nepal. The study was conducted from 1<sup>st</sup> November to 30<sup>th</sup> November in 2020. The online survey was preferred because of the ongoing pandemic crisis and the urgency for data collection considering the situation. The convenience sampling method was adopted to collect the data from the web-users of Nepal. A total of 469 people responded to the survey. Among them, 5 persons failed to give ethical consent and they were excluded making the final sample of 464.

All Nepalese web-users approachable online who responded to the web-based survey in November 2020 were included in the study. Those who were not approachable online and failed to give ethical consent were excluded. A google form poll was designed. The questionnaire was prepared by lecturers of Nepalgunj Medical College, Chisapani, Banke, Nepal analyzing what people should know about COVID-19 from the website of the World Health Organization (WHO), Center For Disease Control And Prevention (CDC), and the Ministry of health and population, Nepal (MoHP) to protect themselves from this hazard.<sup>19,20,21</sup> The initial page of the form contained the background, objectives of the study, and consent, followed by a questionnaire only after voluntary agreement by the participants. The questionnaire had two sections. The first section collected socio-demographic information while the second section consisted of information related to knowledge and awareness about COVID-19. The participants responded to questions with “yes” or “no” and multiple answers questions.

## RESULTS

A total of 469 subjects participated in this web-based survey. Out of these 469 participants, 464 gave ethical consent and provided the information required for this study. Thus, the participation percentage was 98.93%. Among the 464 participants involved in the study, 2 males and 191 were females. There was 143 male per 100 females. Among the total participants, 8 participants were below 18 years of age, 407 belonged to the age group 18-30 years, 21 belonged to the age group 30-60 years while 28 were of 60 years and above. There was a huge participation from the young adults between 18 and 30 years of age, which was around 87.5% of the total. Very low participation of people below 18 years was seen at about 1.7% only. 10 were post-graduates, 229 participants were graduates, 145 of them had completed their secondary education, 63 had achieved higher education, and 17 were illiterate.

Questions	Correct Answers	Gender	
		Female	Male
What type of disease is coronavirus?	Pandemic	96.9%	96.7%
From which country did coronavirus disease originate?	China	100.0%	98.5%
Within how many weeks do the symptoms of coronavirus disease begin to appear upon exposure?	2nd week	91.1%	89.7%
What are the symptoms of coronavirus disease?	All (Dry cough, fever, headache, runny nose)	79.6%	62.3%
Is corona virus disease contagious?	Yes	99.0%	98.2%
How does coronavirus disease spread?	All (Direct contact, droplet, through animal, meat)	21.5%	26.7%

Questions	Correct Answers	Gender	
		Female	Male
What are the different protective measures to be taken for prevention of coronavirus disease?	All (Mask, hand washing with soap, social distancing, not touching face frequently, using tissue paper while sneezing)	94.2%	46.2%
What to do if you develop symptoms of coronavirus disease?	All (Call helpline, stay at home, rush to hospital, prevent contact)	84.3%	60.1%
What should be the percentage of isopropyl alcohol or alcohol in your hand sanitizer?	70% and above	12.0%	81.0%
Total average knowledge		75.4%	73.2%

**Table 1: Average Knowledge Among different Genders**

Average knowledge among different genders table (Table I) compared the average knowledge between males and females. The average knowledge observed in females was 75.4% whereas in the male was 73.2%.

Questions	Correct Answers	Age groups			
		< 18	18-30	30-60	≥60
What type of disease is coronavirus?	Pandemic	50.0%	99.3%	90.5%	78.6%
From which country did coronavirus disease originate?	China	100.0%	99.5%	95.2%	96.4%
Within how many weeks do the symptoms of coronavirus disease begin to appear upon exposure?	2 <sup>nd</sup> week	75.0%	90.9%	90.5%	85.7%
What are the symptoms of coronavirus disease?	All (Dry cough, fever, headache, runny nose)	25.0%	73.5%	42.9%	42.9%
Is corona virus disease contagious?	Yes	75.0%	99.3%	100.0%	92.9%
How does coronavirus disease spread?	All (Direct contact, droplet, through animal, meat)	0.0%	28.0%	0.0%	0.0%

Questions	Correct Answers	Age groups			
		< 18	18-30	30-60	≥60
What are the different protective measures to be taken for prevention of coronavirus disease?	All (Mask, hand washing with soap, social distancing, not touching face frequently, using tissue paper while sneezing)	50.0%	64.1%	76.2%	89.3%
What to do if you develop symptoms of coronavirus disease?	All (Call helpline, stay at home, rush to hospital, prevent contact)	37.5%	73.0%	42.9%	57.1%
What should be the percentage of isopropyl alcohol or alcohol in your hand sanitizer?	70% and above	0.0%	50.9%	71.4%	78.6%
Total average knowledge		45.83%	75.39%	67.73%	69.06%

**Table II: Average Knowledge Among People Of Different Age Groups**

Average knowledge among people of different age groupstable (Table II) compared the average knowledge of different age groups. The average knowledge was found to be highest in the age groups 18 to 30 years (75.39%).

Questions	Answers	Illiterate	Secondary education	Higher secondary education	Graduate	Post-graduate
What type of disease is coronavirus?	Pandemic	76.5%	96.6%	93.7%	99.1%	100.0%
From which country did coronavirus disease originate?	China	88.2%	99.3%	98.4%	100.0%	100.0%
Within how many weeks do the symptoms of coronavirus disease begin to appear upon exposure?	2nd week	76.5%	96.6%	73.0%	91.7%	100.0%

Questions	Answers	Illiterate	Secondary education	Higher secondary education	Graduate	Post-graduate
What are the symptoms of coronavirus disease?	All (Dry cough, fever, headache, runny nose)	47.1%	91.7%	11.1%	75.1%	20.0%
Is corona virus disease contagious?	Yes	88.2%	97.9%	96.8%	100.0%	100.0%
How does coronavirus disease spread?	All (Direct contact, droplet, through animal, meat)	0.0%	34.5%	0.0%	27.9%	0.0%
What are the different protective measures to be taken for prevention of coronavirus disease?	All (Mask, hand washing with soap, social distancing, not touching face frequently, using tissue paper while sneezing)	64.7%	8.3%	77.8%	98.3%	90.0%
What to do if you develop symptoms of coronavirus disease?	All (Call helpline, stay at home, rush to hospital, prevent contact)	41.2%	88.3%	22.2%	73.8%	70.0%
What should be the percentage of isopropyl alcohol or alcohol in your hand sanitizer?	70% and above	52.9%	95.2%	49.2%	25.3%	80.0%
Total average knowledge		59.48%	78.71%	58.02%	76.8%	73.33%

**Table III: Average Knowledge Among People Having Different Qualifications**

According to the findings of the above table (Table III), people with secondary education had the greatest average knowledge.

## DISCUSSION

This study is an attempt to make a comparison between the mean knowledge score among the different sexes, people within different age groups, and with different educational qualifications. Based on the scores acquired by the participants, the average knowledge score was found to be 74.3%. Meanwhile, the average knowledge score ranged from 45.83% to 78.71% while comparing different parameters. Compared to a similar study conducted in China, the average knowledge was higher with a score of 90%.<sup>13</sup> In the meantime, another study in the same country China revealed about 91.2% of average knowledge among the participants involved in the survey.<sup>14</sup> The study carried out in Bangladesh for assessing knowledge, attitude, and practice in their public in March and April showed an average knowledge score of 48.3% which is far less than that of people of Nepal.<sup>15</sup> A cross-sectional study conducted among 2,083 undergraduate or postgraduate students from different government and private universities during the initial stage of the disease in Jordan showed an average knowledge score of 56.5%.<sup>16</sup> However, In our study which was conducted some months later after the outbreak of COVID-19, the web users of Nepal have been found to have much higher knowledge than undergraduate and postgraduate students of Jordan. A cross-sectional bi-national survey that assessed the knowledge, attitude, and perceptions of Egyptians and Nigerians in Africa during the pandemic revealed they also had less knowledge than the Nepalese web users.<sup>17</sup>

The average knowledge among the females was found to be 75.4% while that of the male was 73.2%. Admittedly, this finding of our study was similar to the finding in a cross-sectional study conducted in Bangladesh in which a higher knowledge score was reported among females than males.<sup>18</sup> In a study conducted on knowledge, attitude, and practice toward COVID-19 among young adults with Type 1 Diabetes Mellitus in India, the average knowledge was 74% which was similar to what we found out about the knowledge and awareness about COVID-19 in young adults.<sup>19</sup> In contrast to the study performed among the University students in MizanTepi University with an average knowledge score of 47%, Web users of Nepal were found to be more knowledgeable.<sup>20</sup>

Various studies had been conducted to find at which level is the Nepalese population regarding knowledge of this pandemic. The common population consists mainly of school-going students, household women, working professionals from different fields, students from different disciplines, etc. A study conducted in May 2020 revealed that the people in Eastern Nepal had a satisfactory knowledge about COVID-19 with higher average knowledge in females than males similar to the findings of our study.<sup>21</sup>

## LIMITATIONS

This study used the average knowledge score in the analysis, so each knowledge item was not examined. It has not explored attitudes and practice-related factors.

## CONCLUSION

To conclude, our findings suggest that web users of Nepal were knowledgeable about COVID-19. Females and young adults had more knowledge about COVID-19. Social media, mobile phones, television, radios, etc may have a powerful impact on improving knowledge on different aspects of COVID-19. So, if the messages spreading through them are made more comprehensive, they will make a remarkable difference in the knowledge and awareness of people, which will help to check the transmission of this disease in the countries where the availability of vaccines is very less at present.

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## REFERENCES

1. World Health Organization (WHO). Naming the coronavirus disease (COVID-19) and the virus that causes it. Available from: [https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/naming-the-coronavirus-disease-\(covid-2019\)-and-the-virus-that-causes-it](https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/naming-the-coronavirus-disease-(covid-2019)-and-the-virus-that-causes-it); cited [2021 June 27].
2. (COVID-19) C, Health E, Disease H, Disease L, Management P, Conditions S et al. Coronavirus History: Origin and Evolution. WebMD. 2021
3. World Health Organization (WHO). Coronavirus disease 2019 Available from: <https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200423-sitrep-94-covid-19.pdf>; cited [2021 June 28]
4. World Health Organization (WHO). The World Health Organization Just Declares COVID-19 a Pandemic. Available from: <https://time.com/5791661/who-coronavirus-pandemic-declaration/>; cited [2021 June 28]
5. World Health Organization (WHO). Archived: WHO Timeline - COVID-19. Available from: <https://www.who.int/news/item/27-04-2020-who-timeline-covid-19>; updated [2020 June 29]; cited [2021 June 27]
6. Hu T, Liu Y, Zhao M, Zhuang Q, Xu L, He Q. A comparison of COVID-19, SARS and MERS. PeerJ. 2020;8:e9725
7. Medical News Today. How do SARS and MERS compare with COVID-19? Available from: <https://www.medicalnewstoday.com/articles/how-do-sars-and-mers-compare-with-covid-19#COVID-19>; cited [2021 June 28]
8. Bookshelf. Coronaviruses. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK7782/>; cited [28 June 2021].
9. Johns Hopkins Medicine. Coronavirus | Johns Hopkins ABX Guide. Available from: [https://www.hopkinsguides.com/hopkins/view/Johns\\_Hopkins\\_ABX\\_Guide/540143/all/Coronavirus](https://www.hopkinsguides.com/hopkins/view/Johns_Hopkins_ABX_Guide/540143/all/Coronavirus); updated [2020 October 27]; cited [2021 June 28]

10. Bastola A, Sah R, Rodriguez-Morales A, Lal B, Jha R, Ojha H et al. The first 2019 novel coronavirus case in Nepal. *The Lancet Infectious Diseases*. 2020;20(3):279-280.
11. Poudel K, Subedi P. Impact of COVID-19 pandemic on socioeconomic and mental health aspects in Nepal. *International Journal of Social Psychiatry*. 2020;66(8):748-755.
12. Gebretsadik D, Gebremichael S, Belete M. Knowledge, Attitude and Practice Toward COVID-19 Pandemic Among Population Visiting Dessie Health Center for COVID-19 Screening, Northeast Ethiopia. *Infection and Drug Resistance*. 2021;Volume 14:905-915.
13. Zhong B-L, Luo W, Li H-M, Zhang Q-Q, Liu X-G, Li W-T, et al. Knowledge, attitudes, and practices towards COVID-19 among Chinese residents during the rapid rise period of the COVID-19 outbreak: a quick online cross-sectional survey. *International Journal of Biological Sciences*. 2020;16(10):1745-52. Epub 2020/03/15;
14. Gao, H., Hu, R., Yin, L. et al. Knowledge, attitudes and practices of the Chinese public with respect to coronavirus disease (COVID-19): an online cross-sectional survey. *BMC Public Health* 20, 1816 (2020);
15. Ferdous MZ, Islam MS, Sikder MT, Mosaddek ASM, Zegarra-Valdivia J, Gozal D. Knowledge, attitude, and practice regarding COVID-19 outbreak in Bangladesh: an online-based cross-sectional study. *PLoS One*. 2020;15(10):e0239254.
16. Olaimat A. N., Aolymat I, Shahbaz H. M, Holley R. A. Knowledge and Information Sources About COVID-19 Among University Students in Jordan. *Frontiers in public health*.2020
17. Elnadi H, Odetokun IA, Bolarinwa O, Ahmed Z, Okechukwu O, et al. Correction: Knowledge, attitude, and perceptions towards the 2019 Coronavirus Pandemic: A bi-national survey in Africa. *PLOS ONE* 2020.16(2): e0247351.
18. Anwar S, Araf Y, Newaz Khan A, Ullah MA, Hoque N, Sarkar B, Reshad RAI, Islam R, Ali N, Hosen MJ. Women's Knowledge, Attitude, and Perceptions Toward COVID-19 in Lower-Middle-Income Countries: A Representative Cross-Sectional Study in Bangladesh. *Front Public Health*. 2020 Nov 17;8:571689
19. Pal R, Yadav U, Grover S, Saboo B, Verma A, Bhadada SK. Knowledge, attitudes and practices towards COVID-19 among young adults with Type 1 Diabetes Mellitus amid the nationwide lockdown in India: A cross-sectional survey. *Diabetes Res Clin Pract*. 2020 Aug;166:108344
20. Angelo AT, Alemayehu DS, Dacho AM. Knowledge, Attitudes, and Practices Toward Covid-19 and Associated Factors Among University Students in MizanTepi University, 2020. *Infect Drug Resist*. 2021;14:349-360
21. Chapagain K, Rauniyar G.P, Pokharel R, Bhattarai A. Information about COVID-19 among selected population of Eastern Nepal: A descriptive Cross-sectional Study. *Journal Of Nepal Medical Association*. 2020 Oct;58(230): 770-774