EUROPEAN JOURNAL OF BIOMEDICAL AND PHARMACEUTICAL SCIENCES
http://www.ejbps.com

ISSN 2349-8870
Volume: 9
Issue: 4
421-426
Year: 2022

KNOWLEDGE, ATTITUDE AND PRACTICE REGARDING COVID-19 AMONG RESIDENTS OF NEPAL"

Bipula Gaire*[1], Sandhya Basnet[2], Rushila Paudel Joshi[3], Monika Lama[4], Bibhav Adhikari[5], Nirsuba Gurung[6]

[1]Lecturer, Manipal College of Medical Sciences, Nursing Programme, Phulbari, Pokhara.
[2]Lecturer, Hope International College, Satdobato, Lalitpur.
[3]Lecturer, Yeti Health Sciences and Academy, Kathmandu.
[4]Lecturer, Karnali Academy of Health Sciences, Jumla.
[5]Associate Professor, Little Angles College of Management Hattiban, Lalitpur.
[6]Lecturer, Manipal College of Medical Sciences, Nursing Programme, Phulbari, Pokhara.

***Corresponding Author: Bipula Gaire**
Lecturer, Manipal College of Medical Sciences, Nursing Programme, Phulbari, Pokhara.

Article Received on 11/02/2022 **Article Revised on 03/03/2022** **Article Accepted on 24/03/2022**

ABSTRACT

Background: Global pandemic COVID-19 cases are increasing day by day which has created threats among people of the world. Being a least developed country and its open border with India, Nepal is becoming more vulnerable to COVID-19 cases. Despite the facts various strategies and measures are undertaken to lower the spread but to achieve an ultimate success against the ongoing encounter of COVID-19 in Nepal, people's commitment towards the control measures is pivotal which is largely affected by knowledge attitude and practice of people. This study aimed to assess the knowledge, attitude, and practice regarding COVID -19 among the residents of Nepal. **Methodology:** A cross-sectional online-based survey was undertaken at three selected provinces of Nepal i.e. Province 2, Gandaki, and Sudurpashchim Province. From each province, three districts were randomly selected, and then a proportionate stratified random sampling method was used to select 422 people from selected district. Self -developed questionnaires were used for data collection. Descriptive statistics frequency, percentage and inferential statistics correlation, chi-square and, logistic regression was done through SPSS 20 version. **Results:** Out of 422 respondents, 236 (55.9%) had a low level of knowledge, 291(69%) had a positive attitude but almost all the respondents 420 (99.5%) had a good practice level. There was a significant correlation between knowledge, attitude, and practice ($p<0.005$). The knowledge level was significantly affected by the education level of respondents and information obtained from the website ($p<0.005$) at a 95% confidence level. The Attitude level is significantly affected by the sex of respondents, education level of respondent, information obtained from social media and level of knowledge with $p<0.05$. **Conclusions:** Though almost all of the respondents had good practice it is essential to improve the knowledge and attitude of the people regarding COVID -19 focusing on the gap, mainly on mode of transmission, and breast feeding practices.

KEYWORDS: Attitude, COVID-19, Knowledge, Practice.

INTRODUCTION

The COVID-19 is an ongoing pandemic caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).[1] This disease is highly contagious with the main symptoms including fever, dry cough, fatigue, myalgia.[2] The first outbreak was identified in Wuhan, China, in December 2019 with World Health Organization(WHO) declaring pandemic on 11 March 2019.[3,4] Similarly in Nepal 1st case was seen on 4 January 2020 in Kathmandu and till March 27, 2022 cases have reached 978332 with 11951 deaths.[5,6,7]

Although the Government and health authorities are making substantial efforts to control the disease through various measures, people's knowledge about the disease causes, mode of disease transmission, its preventive measures, and their attitude and practice regarding COVID-19 plays a vital role in disease control. Thus the study aims in assessing knowledge, attitude, and practice regarding COVID-19 among the residents of Nepal and its association with various factors.

METHODS

A cross-sectional online survey was used to identify the knowledge, attitude, and practice regarding COVID-19 among residents of Nepal because of lockdown it was not possible to conduct door to door survey. All the people residing in Province 2, Gandaki, and

Sudurpashchim Province from the age 18 to above, who could fill the form online and those who voluntarily agreed to participate in the study were included in the study by requesting them to click the link given. The health workers and the people who were previously participated in similar types of the survey were excluded from the study by creating an automated setting on a google form. Sample size was calculated based on Cochran's formula (n = Zα2 PQ/ d2) where n= sample size, Z=1.96 at confidence interval (CI) of 95%, P=the prevalence= 50% = (0.5) (Q=1-P), d=degree of precision=0.05 (probability of error). Assuming a 50% prevalence and adding a 10% non- response rate, total respondents were 422. Multistage sampling technique was used to select the province of Nepal. (Figure 1)

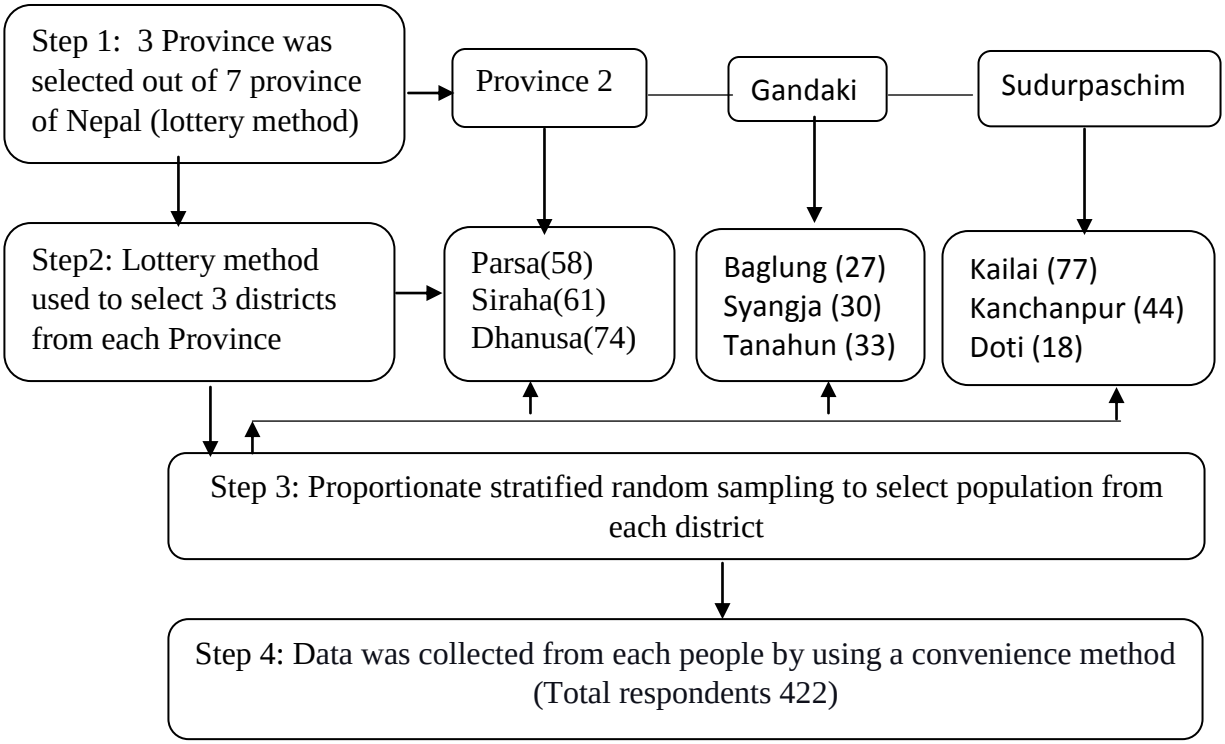

Figure 1: Multistage sampling methods to select the respondents.

A questionnaire-based on research objective was developed by reviewing the related literature and WHO guidelines.[8,9] The Tool was prepared in the English language and further translated in the Nepali language with the help of experts. The tool was prepared in goggles forms for sending to mails and social media.

The tool consisted of the following parts.
Part I= Socio-demographic information which consisted of variable like age, gender, marital status, educational status, place of residence, occupation
Part II = Knowledge related questions comprising variables like causes, symptoms, mode of transmission, prevention
Part III= Three points Likert scale including 8 statement, out of which statement 1,2,4,6,were items were positive and 3,5,7,8 were negative.
Part IV = Practice related questions which consisted of total 6 "Yes", "No" questions.
For each knowledge and practice related questions, "1" score was given for the correct answer, and "0" score was given for the wrong answer. For multiple responses, each correct answer was given 1 score. For positive statement of Likert scale 1 was given for Agree, 0 for Disagree, and 0 for "Don't know" and reverse coding was done for negative statement. Scoring was done based on the mean value. Pre-testing of the instrument was done in 42 (10%) of the total sample size and modification of the tool was done to enable better understanding of the questions.

The face validity of the self- maintained by using appropriate margins, appearance and keeping the content according to the research format and content validity was done through the experts.

Data collection proceeded upon approval of NHRC. Data were collected by using the translated Nepali version tool from 5th June to 15th June 2020. Informed consent was taken from each respondent by describing the objective of the study in the tool and creating an automated setting in the goggle forms; if they click on agree then they can only proceed to further question. The data was collected from respondents through social media by sending the link to the participant and asking them to do the same. The average time required to complete the survey was

about 20- 25 minutes. Confidentiality and anonymity of the data was maintained.

Data collected were checked for completeness of the information and then coded to Statistical Package for Social Sciences (SPSS -20) for analysis. The data were analyzed by using the descriptive statistics frequency, percentage and mean and standard deviation. Pearson correlation was used to examine the correlation between knowledge, attitude and practice. For inferential statistics, chi square test was used to examine association between knowledge, attitude and selected variables and logistic regression was used to see the effects the socio-demographic variables. Statistical significance was considered as p-value <0.05.

RESULTS

Out of 422 respondents, majority of the respondents 193 (45.7%) were from Province 2, nearly half of the respondents 207 (49.1%) belonged to age group 18-18 years, 238(56.4%) of the respondents were male, 242 (57.3%) were married. 176(41.7%) of the respondents had attained university education, 117(27.7%) were students .261(61.8%) of the respondents got information about COVID-19 through the television, 158(37.4%) got information form radio, 124(29.38%) through website , 107(25.4%) of the respondents got information from friends and only 74(17.5%) of the respondents got information from the health workers.

Table 1: Knowledge, Attitude and Practice level among the Respondents. N=422.

Variables		Frequency	Percent
Knowledge Level	Low	236	55.9
	High	186	44.1
Attitude Level	Negative	131	31.0
	Positive	291	69.0
Practice level	Poor	2	.5
	Good	420	99.5

The above table depicts more than half of the respondents 236 (55.9%) had low level of knowledge, nearly 3/4th of the respondents (69%) had positive attitude but almost all the respondents had good practice level.

Table 2: Correlations between knowledge, Attitude and Practice Level of Respondents (N=422).

Variables		knowledge	Practice	Attitude
Knowledge	Pearson Correlation	1	.180**	.276**
	Sig. (2-tailed)		.000	.000
Practice	Pearson Correlation	.180**	1	.162**
	Sig. (2-tailed)	.000		.001
Attitude	Pearson Correlation	.276**	.162**	1
	Sig. (2-tailed)	.000	.001	

**. Correlation is significant at the 0.01 level (2-tailed).

Table 2 illustrates relationship between knowledge attitude and practice score of respondents regarding COVID-19. Correlation between knowledge and practice score was significant (p<0.00) at 0.01 level with value of correlation coefficient (r=0.180), which shows that there is statistically positive correlation between awareness and practice. This signifies that those having higher knowledge score also had good practice to prevent COVID -19.In addition to this Knowledge was significantly associated with attitude (p<0.01) at 0.01 significant level with value of correlation coefficient (r=0.276), which indicated respondents having higher knowledge had positive attitude. Similarly, Correlation between practice score and attitude score was significant (p<0.01) at 0.01 level with value of correlation coefficient (r=0.162), which shows those respondents having positive attitude had good practice level.

Table 3: Correct responses on Knowledge regarding Mode of Transmission of COVID -19. (N=422)

Statement	Frequency	Percent
Mode of transmission		
Respiratory droplets through sneezing, coughing	213	50.5
Touching the infected objects or surfaces, then touching their eyes, nose mouth	94	22.3
Air borne transmission	8	1.9
All of the above	204	48.3
People infected COVID -19 can't transmit the virus if fever is not present		
Yes	361	85.5
No	61	14.5
COVID -19 be passed through breast feeding		
Yes	232	55
No	190	45

Table 4: Attitude regarding COVID -19 among Residents of Nepal.(N=422).

Statements	Agree	Disagree	Don't know
COVID -19 will be completely eradicated from the world	195(46.2%)	62(14.7%)	165(39.1%)
Vaccines will be developed for it	317(75.1%)	10(2.4%)	95(22.5%)
Drinking alcohol reduces the risk of developing COVID -19	74(17.5%)	315(74.6%)	33(7.8%)
Isolation and treatment of people with COVID -19 are best way to control it	368(87.2)	21(5%)	33(7.8%)
COVID -19 can be transmitted if we eat chicken meat	147(34.8%)	214(50.7%)	61(14.5%)
Mother infected with COVID -19 should breast feed her baby with precautions.	113(26.8)	202(47.9)	107(25.4%)
Mother infected with COVID -19 should formula feed their baby	228(54%)	108(25.6%)	86(20.4%
Drinking lots of water helps in flushing the virus from the body	137(32.5%)	201(74.6%)	84(19.9%)

Table 5: Effect of selected variables on Knowledge level. (N=422)

Variables	OR	95% C.I. for OR		p-value
		Lower	Upper	
Province(Sudhurpashchim)	1.213	.962	1.529	.102
Education Level(University Level)	1.652	1.321	2.068	.000*
Information from Health worker(No)	1.209	.640	2.282	.559
Information from COVID -19 Website(No)	1.996	1.188	3.356	.009*
Information from Friends	1.137	.667	1.927	.643
Constant	.198			.060

Note:* p<0.05 significant at 95% confidence level

The above table shows that knowledge level is significantly affected by education level of respondents (OR: 1.652; 95%CI: 1.321-2.068) and information obtained from website (OR: 1.996; 95% CI: 1.188-3.356) at 95% confidence level. The model fitness was tested using Hosmer and Lemeshow Test reveling model is fitted at 5% significance level (p-value: 0.354). Similarly, Cox & Snell pseudo R^2 is 0.101 meaning selected variable can predict knowledge level on an average of 10.1%.

Table 6: Effect of selected variables on Attitude level.(N=422)

	OR	95% C.I. for OR		p-value
		Lower	Upper	
Province(Sudhurpashchim)	1.091	.837	1.423	.518
Age(60 above)	1.103	.780	1.559	.579
Sex(Male)	1.899	1.190	3.030	.007*
MS(Married)	1.176	0.664	2.083	.577
Education Level (University level)	1.869	1.471	2.374	.000*
Information from Social media(No)	2.405	1.112	5.199	.026*
Information from Radio(No)	.843	.499	1.425	.523
Information from Television(No)	.987	.596	1.633	.959
Information from Friends(No)	.944	.517	1.723	.851
Information from Health worker(No)	2.073	1.000	4.298	.050
Information from COVID -19 Website(No)	1.268	.678	2.373	.457
Level of knowledge(High)	1.948	1.190	3.188	.008*
Constant	.002			.000

Note:* p<0.05 significant at 95% confidence level.

The above table shows that Attitude level is significantly affected by sex of respondents (OR: 1.899; 95%CI: 1.19-3.03), education level of respondent (OR: 1.869; 95%CI: 1.471-2.374), information obtained from social media (OR: 2.405; 95% CI: 1.112-5.199) and level of knowledge (OR: 1.948; 95% CI: 1.19-3.188) at 95% confidence level. The model fitness was tested using Hosmer and Lemeshow Test reveling model is fitted at 5% significance level (p-value: 0.82). Similarly, Cox & Snell pseudo R^2 is 0.097 meaning selected variable can predict attitude level on an average of 9.7%.

DISCUSSION

Based on the present study more than half of the respondents had low level of knowledge with range of correct answers 18.18% to 100% with average value of 65.48% which is contrast with the previous study done in Nepal[10] where the range is 64.9 to 99.5%.This is

probably due to the facts that previous study had included health workers as a respondents. However in the present study health workers and those who were participated in similar types of survey were excluded which may affects the overall knowledge.

The study also measured the knowledge on mode of transmission of COVID 19. The major mode of transmission is droplet infection and indirect touching the infected surface (WHO 2019)[2] but this study results showed that almost half of the respondents 204 (48.3%) agreed that beside these air borne transmission of COVID-19 is also possible. Slightly more than three fourth of the respondent viewed that touching the infected objects or surfaces, then touching their eyes, nose mouth does not transmits COVID 19 but studies[11] showed that SARS-CoV-2 remains viable for up to 72 h on plastic and steel surfaces. This might increase the susceptibility of being infected with COVID 19.

More than two third of the respondents have positive attitude towards the COVID-19. Though majority of population have positive attitude regarding prevention and treatment, 202(47.9%) of participants believe that mothers who are infected with COVID-19 should not breast feed their child whereas 228 (54%) respondents were in agreement with the introduction of infant formula. While considering the WHO guideline on breastfeeding it suggest that all confirmed or suspected COVID-19 cases, mothers with any symptoms who are breastfeeding should continue with precautions.[12]

Based on survey results, majority of respondents agreed with isolation and treatment of people with COVID -19 are best way to control, which is comparable to the finding of Iranian population (90%).[13]

The vast majority of the respondents followed the better practices to prevent and control of COVID19 among all domains regardless of knowledge and attitude 314(74.4%) had not gone to crowded place. Almost all of the respondents worn a mask while going out maintained a social distance while going out which is similar to study done in China, Nepal.[9,10] Ninety eight percent of the respondents reported proper hand washing techniques and following lockdown rule which is accordance with the study done in previous study.[9,14] But the study done among Thailand[15] population revealed 83.3% did not use a mask regularly and 54.8% did not use soap while washing hand.

These preventive practices may be due to the strict lockdown with punishment implemented by Government of Nepal. Secondly, through various source of media like radio television, social media, COVID -19 website and even through Caller Ring Back Tone(CRBT, Government of Nepal is making people aware giving emphasis on symptoms and the preventive measures. The study also depicted that that knowledge level is significantly affected by education level of respondents and information obtained from COVID -19 website which is in line with previous done in Iran, Thailand.[13,15] Attitude level is significantly affected by sex of respondents, and level of education and knowledge level p-value <0.007, <0.000, <0.008 respectively which is similar with the Chinese population.[9] This signifies that women, people having education below higher secondary school should be given more exposure on knowledge on COVID 19.Beside this study also revealed attitude level is significantly affected by knowledge obtained from the health workers and social media.

The study also shows there is significant positive correlation between knowledge, attitude and practice ($p<0.005$) which is accordance with the study in Iran.[13] This results illustrates improving knowledge regarding COVID-19 in turn would enhance the attitude and practice level. So it is worth mentioning that even though the study participant have positive attitude and better practice level it is essential to have good knowledge for the continuation of good practice. The concerning institution and government should focus on raising awareness to the population through communicating media so that they can continue their good practice based on their knowledge knowing the consequences of their action.

The limitation of the study is due to global pandemic COVID -19, only those who had access to internet and who could fill the online survey form were included in the survey; some bias like illiteracy, lack of internet access may affect the results.

CONCLUSIONS

Findings of this study depicts that more than half of the respondents demonstrated low level of knowledge, however nearly 2/3rd of the respondents depicted positive attitude and almost all of the respondents had good practice level. The majority of the respondents are lacking confident regarding the mode of transmission of COVID -19, and majority of them believed that COVID-19 is transmitted through breast feeding which is incorrect. Therefore, the study concludes Government and local authorities should incorporate and focus awareness program based on mode of transmission and encourage all the suspected and infected mother of COVID-19 to continue breast feeding with precautions.

Conflict of interest: None.

ACKNOWLEDGMENT

We all thanks to the study respondents for their participation and providing valuable information. The author would appreciate Mithu Saud, Reena Bhagat for assisting with data collection and Nona Shakya for editing the final manuscript.

REFERENCES

1. Adhikari SP, Meng S, Wu YJ, Mao YP, Ye RX, Wang QZ, Sun C, Sylvia S, Rozelle S, Raat H, Zhou H. Epidemiology, causes, clinical manifestation and diagnosis, prevention and control of coronavirus disease (COVID-19) during the early outbreak period: a scoping review. Infectious diseases of poverty. 2020 Dec; 9(1):1-2. Available at https://link.springer.com/article/10.1186/s40249-020-00646-x.[Accessed on 5th May 2020]
2. Novel Coronavirus (2019-nCoV). World Health Organization; 2020. Available from https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200121-sitrep1-2019-ncov.pdf. [Accessed on 8th May 2020]
3. WHO. Report of the WHO-China Joint Mission on Coronavirus Disease 2019 (COVID-19). 2020. Available from. https://www.imperial.ac.uk/media/imperial-college/medicine/sph/ide/gida-fellowships/Imperial-College-COVID19-Global-Impact-26-03-2020.pdf .[Accessed on 7th May 2020]
4. World Health Organization. WHO announces COVID-19 outbreak a pandemic. http://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/news/news/2020/3/who-announces-covid-19-outbreak-a-pandemic
5. "Corona update live". Worldometer. 2020. Available from https://www.worldometers.info/coronavirus/#countries. [Accessed on 25th June 2020.]
6. Bastola A, Sah R, Rodriguez-Morales AJ, Lal BK, Jha R, Ojha HC, Shrestha B, Chu DK, Poon LL, Costello A, Morita K. The first 2019 novel coronavirus case in Nepal. The Lancet Infectious Diseases. 2020 Mar 1;20(3):279-80. DOI: https://doi.org/10.1016/S1473-3099(20)30067-0
7. Coronavirus disease (COVID-19) outbreak updates and resource material. Ministry of Health and Population; 2020. Available from https://covid19.mohp.gov.np/#/ [Accessed on 25th June 2020.]
8. World Health Organization. Q&A on coronaviruses (COVID-19). Available from https://www.who.int/emergencies/diseases/novel-coronavirus-2019/question-and-answers-hub/q-a-detail/q-a-coronaviruses. [Accessed on 5th May 2020.]
9. Zhong BL, Luo W, Li HM, Zhang QQ, Liu XG, Li WT, Li Y. 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.DOI:10.7150/ijbs.45221
10. Hussain A, Garima T, Singh BM, Ram R, Tripti RP. Knowledge, attitudes, and practices towards COVID-19 among Nepalese Residents: A quick online cross-sectional survey. Asian Journal of Medical Sciences. 2020 May 1;11(3):6-11.DOI: 10.3126/ajms.v11i3.28485
11. Van Doremalen N, Bushmaker T, Morris DH, Holbrook MG, Gamble A, Williamson BN, & Lloyd-Smith, JO (2020). Aerosol and surface stability of SARS-CoV-2 as compared with SARS-CoV-1. New England Journal of Medicine. DOI: 10.1056/NEJMc2004973
12. World Health Organization. Breastfeeding advice during the COVID-19 outbreak. Available from http://www.emro.who.int/nutrition/nutrition-infocus/breastfeeding-advice-during-covid-19-outbreak.html [Accessed on 17th June, 2020]
13. Amirhossein E. Knowledge, Attitude and Practice toward the Novel Coronavirus (COVID-19) Outbreak: A Population-Based Survey in Iran. Who.int. 2020. Available from: https://www.who.int/bulletin/online_first/20-256651.pdf. [Accessed on 7 May 2020]
14. Almutairi KM, Al Helih EM, Moussa M, Boshaiqah AE, Saleh Alajilan A, Vinluan JM, Almutairi A. Awareness, attitudes, and practices related to coronavirus pandemic among public in Saudi Arabia. Family & community health. 2015 Oct 1;38(4):332-40. DOI:https://doi.org/10.1097/FCH.0000000000000082
15. Srichan P, Apidechkul T, Tamornpark R, Yeemard F, Khunthason S, Kitchanapaiboon S, Wongnuch P, Wongphaet A, Upala P. Knowledge, Attitude and Preparedness to Respond to the 2019 Novel Coronavirus (COVID-19) Among the Bordered Population of Northern Thailand in the Early Period of the Outbreak: A Cross-Sectional Study. Available at SSRN 3546046. 2020 Feb 24. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3546046. [Accessed on 7th May]