PUBLIC UNDERSTANDING AND THEIR RESPONSE TO COVID-19 IN NEPAL

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# ACRONYMS

|  |  |
| --- | --- |
| ATM: | Automatic Teller Machine |
| COVID-19: | Corona Virus Disease 2019 |
| FM: | Frequency Modulation (radio) |
| ft: | Feet |
| MoHP: | Ministry of Health and Population |
| NHRC: | Nepal Health Research Council |
| NRs: | Nepali rupees |
| PPE: | Personal Protective Equipment |
| SARS: | Severe Acute Respiratory Syndrome |
| SD: | Standard Deviation |
| SPSS: | Statistical Package for Social Sciences |
| TV: | Television |
| WHO: | World Health Organization |

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Dr. Pradip Gyanwali

Executive Chief, Member-Secretary

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# FACTSHEET

To control and prevent the infection and transmission of COVID-19 pandemic, public understanding and practice is very important. However, the level of understanding among the public about COVID-19 is unclear. Hence this study aims at exploring the public understanding and their responses regarding COVID-19 in Nepal which can eventually guide the national authorities to contain the outbreak through better response from the general public. A descriptive cross-sectional study was conducted using a convenient sampling method where an online data form was shared in the Viber group of MoHP which had 2,94,964 followers during the time of data collection. A total of 3582 people over 18 years participated in the study, out of which 2621 were male, 957 were female and 4 were other gender.

| **Public understanding and their response to COVID-19 in Nepal** | **Percentage** | | |
| --- | --- | --- | --- |
| **Both sexes** | **Male** | **Female** |
| **Heard about COVID-19 (N= 3578)** | 99.8 | 99.8 | 99.8 |
| **First source of information for COVID-19 (N=3578)** |  |  |  |
| News | 46.4 | 49.7 | 37.4 |
| Social media | 51.8 | 49.1 | 59.0 |
| Word of mouth | 1.8 | 1.2 | 3.7 |
| **Knowledge on route of transmission (N=3578)** |  |  |  |
| Coughing/ sneezing | 96.2 | 96.0 | 96.8 |
| Saliva droplets | 95.7 | 95.7 | 95.7 |
| Kissing | 83.1 | 84.8 | 78.7 |
| Touching | 77.4 | 79.3 | 72.2 |
| Food | 40.2 | 41.7 | 36.2 |
| Sexual intercourse | 38.3 | 40.1 | 33.4 |
| **Knowledge on sign and symptoms (N=3578)** |  |  |  |
| Fever | 98.8 | 98.7 | 99.2 |
| Difficulty breathing | 97.8 | 98.0 | 97.4 |
| Dry Cough | 92.8 | 92.6 | 93.1 |
| Tiredness | 78.9 | 79.9 | 76.3 |
| Sore throat | 77.8 | 78.1 | 76.8 |
| Headache | 72.1 | 72.8 | 70.2 |
| Body pain | 63.0 | 63.0 | 63.0 |
| Chest pain | 58.3 | 57.9 | 59.5 |
| Diarrhea | 39.5 | 37.7 | 44.7 |
| Asymptomatic | 31.9 | 31.1 | 34.1 |
| **Knowledge on social distancing (N=3578)** | 89.7 | 90.7 | 87.1 |
| **Knowledge on isolation (N=3578)** | 92.4 | 92.1 | 93.2 |
| **Knowledge on quarantine (N=3578)** | 83 | 81.8 | 86.2 |
| **Public belief on common myths on COVID 19 prevention (N= 3578)** |  |  |  |
| Drinking hot water | 78.9 | 78.4 | 80.4 |
| Gargling | 67.7 | 67.3 | 68.5 |
| Avoiding imports from abroad | 67.0 | 66.3 | 68.9 |
| Distancing from pets | 65.7 | 67.8 | 59.8 |
| Warm shower | 40.0 | 38.8 | 43.2 |
| Garlic consumption | 36.1 | 37.2 | 33.0 |
| Getting vaccinated against pneumonia | 33.7 | 32.5 | 37.1 |
| Using hand dryer | 33.6 | 33.4 | 34.2 |
| **Public response to government’s efforts on COVID-19 prevention (N=3582)** |  |  |  |
| Agreement to government effort to quarantining everyone returning from abroad for 14 days | 98.1 | 98.0 | 98.4 |
| Agreement to government effort to suspending air travel | 96.7 | 96.8 | 96.4 |
| Agreement to government effort to closing schools | 95.4 | 95.4 | 95.5 |
| Agreement to government effort to forbidding mass gatherings | 98.5 | 98.4 | 98.5 |
| Agreement to government effort to lockdown | 93.0 | 92.4 | 94.7 |
| **Never breached lockdown (N=3578)** | 78.7 | 76.3 | 85.1 |
| **Used mask while leaving house (N=3578)** | 97.9 | 97.9 | 97.8 |
| **Public response to the problems faced due to lockdown (N=3416)** |  |  |  |
| Problem of getting daily consumable items | 57.9 | 58.9 | 55.1 |
| Economic burden for not having job | 30.6 | 31.4 | 28.2 |
| Mental illness due to Covid-19 fear | 11.1 | 9.3 | 16.1 |
| Domestic Violence (verbal, sexual, physical) | 0.4 | 0.4 | 0.6 |
| **Public response to preparedness of similar future disease outbreaks (N=3578)** |  |  |  |
| Cleanliness | 94.3 | 93.6 | 96.2 |
| Distancing | 89.6 | 88.9 | 91.6 |
| Rapid finding new diseases | 85.9 | 85.8 | 86.4 |
| Improving infrastructures | 85.8 | 85.9 | 85.5 |
| Improving diagnosis | 83.6 | 83.3 | 84.5 |
| Maintaining health | 81.4 | 79.9 | 85.3 |
| Not panicking | 80.9 | 79.5 | 84.5 |
| Enforcing authentic orders | 79.7 | 79.2 | 81.0 |
| Improving communication | 69.8 | 69.0 | 72.2 |
| Avoiding stockpile | 52.7 | 53.1 | 51.3 |
| Stopping air travel | 43.9 | 45.2 | 40.5 |
| Recommendations:  Raise awareness on the myths regarding COVID 19 to help reduce transmission and prevention of COVID-19.  Government interventions should focus on minimizing the public issues and problems due to lockdown while preventing COVID-19 transmission in the country. | | | |

# EXECUTIVE SUMMARY

Background:

The new Corona Virus Disease (COVID-19) pandemic has become a major cause of death throughout the world. To control and prevent the infection has become a great challenge for every country in the globe. In this regard, public knowledge, understanding and their practice plays a vital role in containing the corona virus disease. Hence, the study was conducted with the aim of identifying the public understanding and their response to COVID-19 in Nepal.

Method:

The study was an online population based cross sectional study conducted throughout Nepal among the participants of 18 years and above. An online questionnaire was developed and shared in the Viber group created by Ministry of Health and Population on a daily basis for one week and participants were requested to complete the questionnaire along with their consent in it. A total of 3,582 participants were included in the study.

Findings:

Among the total 3,582 participants, most (73.2%) were males. The mean age of participants was 32.4 years. Majority (65.4%) were from Bagmati province and the least (1.6%) were from Karnali province. More than half (54.2%) of the participants were married and 6 out of 10 (63.1%) belonged to Brahmin/Chhetri community. Majority had the education level of Bachelor’s and higher and around 2/3rd (61%) of the participants were from occupations other than health care.

The study found that almost all (99.8%) of the participants had heard about COVID-19 primarily from online newspaper and social networks. A large proportion had knowledge that cough/sneeze, saliva droplets, kiss, and touch are the major ways of corona virus transmission. Similarly, most of them (99.6%) had the understanding that hand washing/sanitizing can prevent COVID-19 transmission. At the same time, participants believed various myths about COVID-19 prevention like drinking hot water (78.9%), gargling (67.6%), avoiding imports from abroad (67.6%), distancing from pets (65.6%), and taking warm showers (40%). Concerning the signs and symptoms, majority (92.8%-98.8%) said fever, difficulty breathing and dry cough are the major symptoms of COVID-19.

Regarding public response to COVID-19, more than 90% people supported the government’s efforts to quarantining people coming from abroad, suspending air travel into the country, closing all schools, forbidding mass gatherings, and enforcing a lockdown. Majority (98%) use a mask while going outside, but about half of them reuse the mask after washing or keeping them in the sun. More than 95% participants were having at least one problem due to the lockdown, out of which more than half were having problems of getting daily consumable items and one- third of the participants were facing economic burden. Other problems include mental illness due to fear (11%) and domestic violence like verbal, physical, sexual (0.4%).

Conclusion:

The study found that a large proportion of the public had adequate understanding about the major symptoms, route of transmission and prevention of COVID-19 in Nepal. However, the study was limited to the participants who had access to internet use. The study revealed that participants have belief on myths like drinking hot water, gargling, hot shower etc. could prevent COVID-19. Therefore, awareness regarding the misconceptions on COVID-19 prevention is required. Majority of the public also supported and followed the government activities to prevent COVID-19. However, problems in getting daily consumable items, and economic problems due to lockdown were prevalent. Government interventions should focus on minimizing the public issues and problems due to lockdown while preventing COVID-19 transmission in the country.

# CHAPTER 1. INTRODUCTION

“Corona virus disease (COVID-19) is an infectious disease caused by a newly discovered corona virus” ([1](#_ENREF_1)) with symptoms ranging from common cold to severe acute respiratory syndrome (SARS) and transmitted from human to human ([2](#_ENREF_2), [3](#_ENREF_3)). Corona virus was first identified from Wuhan, China in December 2019. Since then, the virus rapidly spread and has reached 182 countries out of 202 with at least one case in each of the affected countries ([4](#_ENREF_4)). It has been estimated that in South Asia only, 1.7 billion infections and 7.6 million deaths will occur if no preventive actions are taken ([4](#_ENREF_4)). In Nepal, the first case was identified on January 29, 2020 ([5](#_ENREF_5)) and as of May 6, 2020 the number of reported COVID-19 cases was 82 (Ministry of Health and Population, MoHP).

COVID-19 spreads through multiple ways i.e. droplets released while coughing or sneezing from an infected person, feco-oral and direct contact ([6](#_ENREF_6)). Till date antiviral drug against COVID-19 has not been identified. Hence, the best measure to control COVID-19 is application of preventive measures. For any epidemic to be controlled, good understanding and practice among the public is very important. The behavior of general public has a significant role in the control of transmission and spread of COVID-19. Human behavior and practice is shaped by their knowledge and perception ([7](#_ENREF_7)). Hence, it is necessary to identify the understanding and response of general public to control the pandemic.

The role of individuals and communities plays a crucial role to slow or stop the spread of COVID-19 and their response is as important as that of the country’s major authorities. Public understanding of social and physical distancing and their practice can slow the spread of disease by stopping chains of transmission of COVID-19 and preventing new people from being infected. Lack of trust of the public upon authorities may affect how people process and interpret health messages/ advice, and act on them. Transparent and honest communication where both good and bad news is conveyed can empower the public to trust the messages and take actions accordingly. Government of Nepal is providing information to the public via various means like mass media, public hearing, live telecast etc. However, the level of understanding among the public about COVID-19 is unclear. Hence, the study aims at exploring the public understanding and their responses regarding COVID-19 in Nepal which eventually will guide the national authorities to contain the outbreak through cooperation of the public in its scientifically sound approaches.

# CHAPTER 2. METHODOLOGY

## 2.1 Study setting

A nationwide cross-sectional online study was carried out during this pandemic to investigate the understanding and the response of public to COVID-19.

## 2.2 Study population

The study population included participants aged 18 years and above. Participants were eligible for the study if they were residents of Nepal and able to give consent.

## 

## 2.3 Sample size

We did an online survey and total number of participants enrolled were 3,929. After excluding 36 for no consent, 33 for not being from Nepal, 9 for being below 18 years of age and 269 responses for being duplicate entries, 3582 responses were included for analysis.

## 2.4 Sampling technique

Convenient non-probability sampling technique was used in the study.

## 2.5 Data collection tool

Self-administered questionnaire was used in the study and the questionnaires were provided via online medium. We used semi structured questionnaire adapted from different sources (8) and some self-developed through literature search. We translated and back translated the questionnaires and validated it through expert consultation and ensured that the Nepali translation gave the same meaning.

## 

## 2.6 Data collection procedure

Data collection was done through online portal. A google form was developed with the information sheet, consent and the questionnaires.

During the COVID-19 pandemic, MoHP had created a Viber group with the objective of providing an update on all the recent activities carried out by the Ministry on COVID-19 to the general public. Anyone could join the group and it had 2,94,964 members throughout Nepal at the time of our data collection. Taking that opportunity, we shared our questionnaire as Google Form in the Viber Group on a daily basis for one week and invited the participants to fill the form after an informed consent.

## 

## 2.7 Ethical considerations

We obtained ethical approval for this study from the Ethical Review Board at NHRC. We further obtained formal permission from the Ministry of Health and Population to upload our questionnaire in their Viber Group. We obtained an informed consent from the participants before starting the survey. Anonymity of the participants was maintained throughout the study.

## 2.8 Data management and analysis

Data was collected through online platform into a spreadsheet. This data was entered into and validated using data validation tools in Microsoft Excel. Participants with missing data or those who did not give consent or were out of Nepal were excluded from the study. Duplicate data entry was checked and removed. Reliability of the questionnaire was assessed using Cronbach’s alpha (0.746).

Data was analyzed using SPSS version 17. Descriptive results were produced for each of the outcome variables. Frequencies, percent and mean were calculated as applicable.

# CHAPTER 3. FINDINGS

## 3.1 Sociodemographic profile of study participants

This section describes the study participants based on different sociodemographic characteristics.

Out of 3929 participants, 347 were excluded from the study due to various exclusion criteria. A total of 3582 responses were included in the study. Table 1 shows the distribution of participants according to gender. Nearly three-fourth of the participants were males, 26.7 % were females and only 0.1% were of other gender.

Table 1 Distribution of the participants according to gender. (N=3582)

|  | Percent | N |
| --- | --- | --- |
| **Gender** |  |  |
| Male | 73.2 | 2621 |
| Female | 26.7 | 957 |
| Other | 0.1 | 4 |
| **Total** | **100** | **3582** |

The mean ± SD age of participants was 32.4 ± 10.3 years. Table 2 shows the mean age according to gender

Table 2 Age of the participants. (N=3582)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | N | Minimum | Maximum | Mean | Std. deviation |
| **Gender** |  |  |  |  |  |
| Male | 2621 | 18 | 84 | 33.583 | 10.4427 |
| Female | 957 | 18 | 77 | 29.329 | 9.2701 |
| Other | 4 | 28 | 32 | 30.750 | 1.8930 |
| **Total** | **3582** | **18** | **84** | **32.443** | **10.3089** |

The age wise distribution of the male and female participants, province wise distribution of participants and province wise distribution according to age is shown in figure 1, 2 and 3 respectively. Majority of participants were between 25 to 39 years. In all the provinces, the adult participants between 25-39 years were high followed by those less than 25 years, 40-54 years and 55-69 years. Very few participants of 70 years and above group had participated from the Sudurpaschim Province in the study.

Figure 1 Age distribution of male and female participants (N=3578, 4 participants of other gender excluded)



Figure 2 Distribution of participants according to provinces of Nepal. (N=3582)

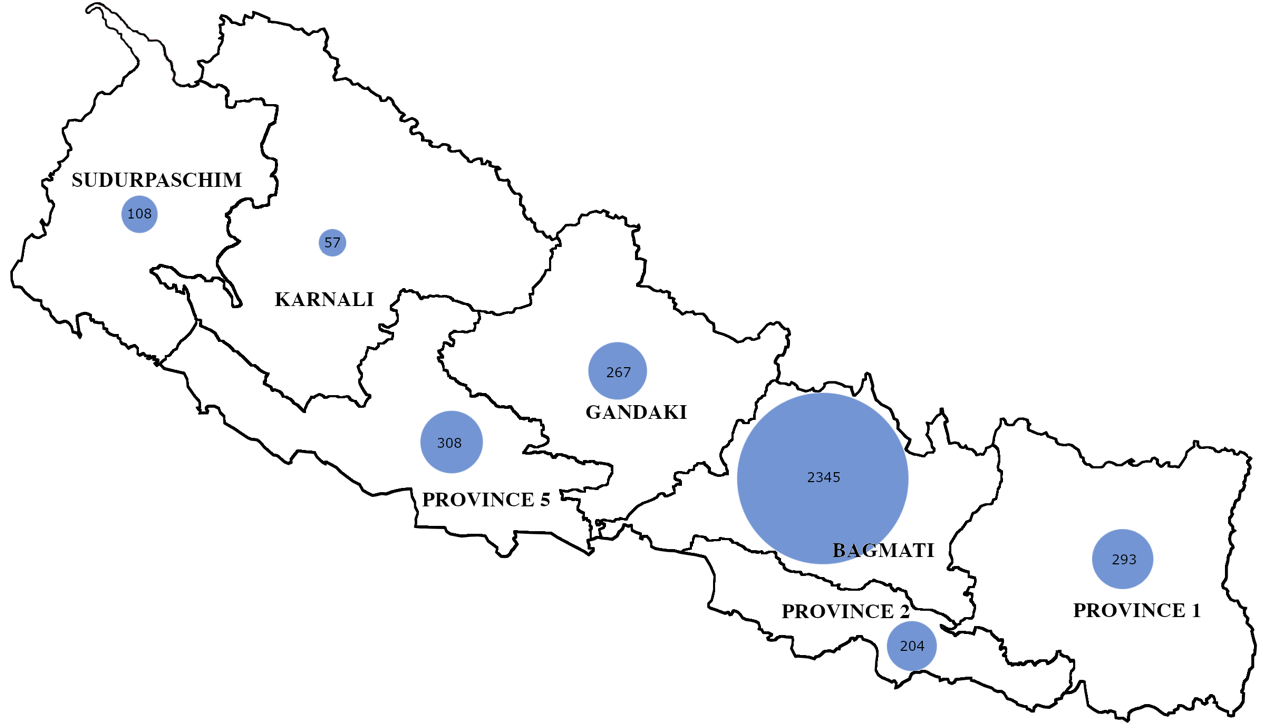


Figure 3 Age-distribution of the participants according to provinces. (N=3582)



Distribution of male and female study participants according to different sociodemographic characteristics is presented in tables 3. Half of the participants were between 25-39 years age group. Majority were from Bagmati Province and very few were from Sudurpaschim Province. Nearly 60% of the participants were married males and unmarried females. Majority of the participants had higher level education (Bachelors and above). More than 2/3rd of the male participants were of the occupation other than health care. Whereas among the female participants 34.5% were from health care and 39.4% were from occupation other than health care. More than half of the male and female were Brahmin/Chhetri.

Out of the four participants from other gender, all were of 25-39-year age group, all were from Bagmati province, and unmarried. Three of them had completed higher secondary education while one had completed master’s degree. Three of them were unemployed while one was employed in a non-health related occupation. Three of them were Brahmin/ Chhetri while one was Adibasi/ Janajati. Two of them used online newspapers as major source of daily news while the other two used social networks.

Table 3 Distribution of male and female participants by socio-demographic characteristics (N=3578)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Male** | | **Female** | | **Total** | |
| Percent | N | Percent | N | Percent | N |
| **Age (years)** |  |  |  |  |  |  |
| Less than 25 | 20.8 | 544 | 37.6 | 360 | 25.3 | 904 |
| 25-39 | 54.3 | 1422 | 49.0 | 469 | 52.9 | 1891 |
| 40-54 | 20.4 | 535 | 11.1 | 106 | 17.9 | 641 |
| 55-69 | 4.3 | 112 | 2.1 | 19 | 3.7 | 132 |
| 70 and above | .3 | 8 | .2 | 2 | .3 | 10 |
| **Province** |  |  |  |  |  |  |
| Province 1 | 8.6 | 226 | 7.0 | 67 | 8.2 | 293 |
| Province 2 | 6.5 | 171 | 3.4 | 33 | 5.7 | 204 |
| Bagmati province | 62.5 | 1639 | 73.4 | 702 | 65.4 | 2341 |
| Gandaki province | 7.6 | 199 | 7.1 | 68 | 7.5 | 267 |
| Province 5 | 9.2 | 242 | 6.9 | 66 | 8.6 | 308 |
| Karnali province | 1.8 | 48 | .9 | 9 | 1.6 | 57 |
| Sudurpaschim province | 3.7 | 96 | 1.3 | 12 | 3.0 | 108 |
| **Marital status** |  |  |  |  |  |  |
| Married | 59.7 | 1565 | 39.1 | 374 | 54.2 | 1939 |
| Unmarried | 39.8 | 1044 | 58.8 | 563 | 44.9 | 1607 |
| Other (Widowed, divorced or separated) | .5 | 12 | 2.1 | 20 | .9 | 32 |
| **Education** |  |  |  |  |  |  |
| Secondary level or lower | 5.4 | 142 | 3.4 | 33 | 4.9 | 175 |
| Higher secondary level | 20.4 | 535 | 20.3 | 194 | 20.4 | 729 |
| Bachelor level | 38.0 | 997 | 42.5 | 407 | 39.2 | 1404 |
| Master’s level or higher | 36.1 | 947 | 33.8 | 323 | 35.5 | 1270 |
| Occupation |  |  |  |  |  |  |
| Unemployed | 17.9 | 470 | 26.1 | 250 | 20.1 | 720 |
| Health care | 13.1 | 344 | 34.5 | 330 | 18.8 | 674 |
| Other occupation | 68.9 | 1807 | 39.4 | 377 | 61.0 | 2184 |
| Ethnicity |  |  |  |  |  |  |
| Brahmin/ Chhetri | 65.7 | 1721 | 55.9 | 535 | 63.1 | 2256 |
| Newar | 16.1 | 421 | 24.2 | 232 | 18.3 | 653 |
| Adibasi/ Janajati | 9.2 | 242 | 15.2 | 145 | 10.8 | 387 |
| Others | 9.0 | 237 | 4.7 | 45 | 7.9 | 282 |
| **Total** |  | **2621** |  | **957** |  | **3578** |

*\*4 participants of other gender excluded.*

The study found that the major source of daily news among male participants was internet (online newspapers), followed by social network like Facebook, Twitter, YouTube and radio/TV. Very few participants got the news through printed newspapers and via talking with people. Among female participants’ social network was most common source of daily news followed by internet and radio/TV as shown in table 4.

Table 4 Major source of daily news. (N=3578)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Male** | |  | **Female** | |  | **Total** | |
| Percent | N |  | Percent | N |  | Percent | N |
| Newspapers | 1.1 | 28 |  | .4 | 4 |  | .9 | 32 |
| Radio/ TV | 13.0 | 341 |  | 10.8 | 103 |  | 12.4 | 444 |
| Internet (online newspapers) | 51.9 | 1359 |  | 42.3 | 405 |  | 49.3 | 1764 |
| Social network | 33.8 | 887 |  | 46.4 | 444 |  | 37.2 | 1331 |
| Talking with people | .2 | 6 |  | .1 | 1 |  | .2 | 7 |
| **Total** |  | **2621** |  |  | **957** |  |  | **3578** |

*\*4 participants of other gender excluded.*

## 3.2 Public understanding on COVID-19

The section describes the public understanding and knowledge regarding novel corona virus in Nepal.

Nearly half of the male participants had first heard about COVID-19 from the news and social media whereas among female participants the proportion who had heard from social media (59.0%) was higher than from the news. Very few male and female participants had heard about COVID 19 via other persons. In all the provinces, social media was found to be a more popular source of information on COVID 19 than the news. Similarly, social media was also popular source among the participants with educational level of bachelor and below, whereas the news was proportionately a major source of information on COVID 19 among Master’s level and higher education as shown in table 6.

Table 6 First heard about COVID 19 (N=3578; 4 Non-response)

|  | News | | | |  | | Social media | | | |  | | Word of mouth | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Percent | | N | |  | | Percent | | N | |  | | Percent | | N | | |
| **Gender** |  | |  | |  | |  | |  | |  | |  | |  | | |
| Male | 49.7 | | 1301 | |  | | 49.1 | | 1287 | |  | | 1.2 | | 31 | | |
| Female | 37.4 | | 357 | |  | | 59.0 | | 563 | |  | | 3.7 | | 35 | | |
| Total | 46.4 | | 1658 | |  | | 51.80 | | 1850 | |  | | 1.8 | | 66 | | |
| **Participant's residence** | | | | | | | | | | | | | | | | |
| Province 1 | | 39.4 | | 115 | |  | | 57.2 | | 167 | |  | | 3.4 | | 10 | | |
| Province 2 | | 42.2 | | 86 | |  | | 54.9 | | 112 | |  | | 2.9 | | 6 | | |
| Bagmati province | | 48.8 | | 1143 | |  | | 49.6 | | 1161 | |  | | 1.6 | | 38 | | |
| Gandaki province | | 44.9 | | 120 | |  | | 53.6 | | 143 | |  | | 1.5 | | 4 | | |
| Province 5 | | 42.9 | | 132 | |  | | 54.9 | | 169 | |  | | 2.3 | | 7 | | |
| Karnali province | | 38.6 | | 22 | |  | | 61.4 | | 35 | |  | | .0 | | 0 | | |
| Sudurpaschim province | | 38.9 | | 42 | |  | | 60.2 | | 65 | |  | | .9 | | 1 | | |
| **Education** |  | |  | |  | |  | |  | |  | |  | |  | | |
| Secondary level or lower | 40.8 | | 71 | |  | | 58.0 | | 101 | |  | | 1.1 | | 2 | | |
| Higher secondary level | 35.5 | | 260 | |  | | 61.9 | | 453 | |  | | 2.6 | | 19 | | |
| Bachelor's level | 42.3 | | 594 | |  | | 55.6 | | 780 | |  | | 2.1 | | 30 | | |
| Master's level or above | 58.0 | | 735 | |  | | 40.9 | | 518 | |  | | 1.2 | | 15 | | |
| **Occupation** |  | |  | |  | |  | |  | |  | |  | |  | | |
| Unemployed | 34.4 | | 249 | |  | | 62.1 | | 449 | |  | | 3.5 | | 25 | | |
| Health care | 41.9 | | 282 | |  | | 56.8 | | 382 | |  | | 1.3 | | 9 | | |
| Other occupation | 51.7 | | 1129 | |  | | 46.8 | | 1021 | |  | | 1.5 | | 32 | | |
| **Total** | **46.4** | | **1660** | |  | | **51.8** | | **1852** | |  | | **1.8** | | **66** | | |

*\*4 participants of other gender excluded on the gender section*

The study found that the participants had adequate understanding on the mode of COVID-19 transmission. Majority of the participants had understanding that COVID-19 is transmitted by cough/ sneeze (96.2%), saliva droplets (95.7%), while more than 2/3rd of the participants told that COVID-19 is transmitted via kissing and touching. Five percentage of the participants had understanding that using the same objects used by patients: clothes, coins, electronic gadgets, computer, ATM machines, elevators, toilets, biometric attendance devices, paper, money, and hugging and handshakes are responsible for transmission of corona virus. Among these participants, some had misunderstandings that flies, mosquito bites, contact with sweat, blood and air could transmit the virus (Table 7).

Table 7 Knowledge of participants on major route of transmission of COVID-19 (N= 3578)

|  |  |  |  |
| --- | --- | --- | --- |
|  | Male %  (N=2621) | Female %  (N=957) | Total %  (N=3578) |
| Cough/ sneeze | 96.0 | 96.8 | 96.2 |
| Saliva droplets | 95.7 | 95.7 | 95.7 |
| Kissing | 84.8 | 78.7 | 83.1 |
| Touching | 79.3 | 72.2 | 77.4 |
| Food | 41.7 | 36.2 | 40.2 |
| Sexual intercourse | 40.1 | 33.4 | 38.3 |
| Other | 4.7 | 3.4 | 4.4 |
| Don't know | 1.3 | 0.4 | 1.1 |

*\*4 participants of other gender excluded*

Table 8 shows the participants’ knowledge on the preventive measures of COVID-19 transmission. The study found that most of the participants knew that hand washing/ sanitizing, avoiding touching face, avoiding close contact with sick, disinfecting touched objects regularly and wearing a general mask helps prevent transmission of COVID-19.

Table 8 Knowledge of participants on preventive measures of COVID-19 (N=3578)

|  |  |  |  |
| --- | --- | --- | --- |
|  | Male %  (N=2621) | Female %  (N=957) | Total %  (N=3578) |
| Hand washing/ sanitizing | 99.5 | 99.6 | 99.6 |
| Avoiding touching face | 98.1 | 98.0 | 98.0 |
| Avoiding close contact with sick | 98.0 | 97.9 | 98.0 |
| Disinfecting touched objects | 86.3 | 90.6 | 87.4 |
| Wearing a general mask | 79.1 | 75.5 | 78.2 |

*\*4 participants of other gender excluded.*

Participants had beliefs in common myths as well. Majority of male participants believed that drinking hot water (78.4%), gargling (67.3%), avoiding imports from abroad (66.3%) or distancing from pets (67.8%) prevents transmission of COVID-19. Other beliefs on preventing COVID-19 infection and transmission included warm shower, garlic consumption, vaccination against pneumonia, hand dryer, ultraviolet disinfection, sprinkling body with alcohol and chlorine, saline nasal rinse and avoiding mosquitoes as shown in table 9.

Table 9 Participants’ beliefs in common myths. (N= 3578)

|  |  |  |  |
| --- | --- | --- | --- |
|  | Male%  (N=2621) | Female%  (N=957) | Total%  (N=3578) |
| Drinking hot water | 78.4 | 80.4 | 78.9 |
| Gargling | 67.3 | 68.5 | 67.7 |
| Avoiding imports from abroad | 66.3 | 68.9 | 67.0 |
| Distancing from pets | 67.8 | 59.8 | 65.7 |
| Warm shower | 38.8 | 43.2 | 40.0 |
| Garlic consumption | 37.2 | 33.0 | 36.1 |
| Getting vaccinated against pneumonia | 32.5 | 37.1 | 33.7 |
| Using hand dryer | 33.4 | 34.2 | 33.6 |
| Ultraviolet disinfection | 27.8 | 33.4 | 29.3 |
| Sprinkling body with alcohol and chlorine | 28.0 | 26.0 | 27.5 |
| Saline nasal rinse | 27.1 | 27.4 | 27.1 |
| Avoiding mosquitoes | 21.7 | 20.0 | 21.2 |

*\*4 participants of other gender excluded.*

Table 10 depicts the participants’ knowledge about signs and symptoms of COVID-19, the study found that almost all of the participants had knowledge that fever (98.8%), cough (92.8%) and difficulty breathing (97.8%) are common symptoms of COVID-19. Around 3/4th of the participants have understanding that headache (72.1%), sore throat (77.8%) and tiredness (78.9%) are associated with COVID-19. Only 31.9% are aware that person infected with COVID-19 can be asymptomatic. Very few (0.6%) thought that loss of smell, loss of taste, blue lips, nausea, vomiting, hemoptysis, rashes, conjunctivitis, jaundice, restlessness and toe blisters are also the symptoms of COVID 19.

Table 10 Knowledge of participants on major symptoms of COVID-19. (N=3578)

|  | Male%  (N=2621) | Female%  (N=957) | Total%  (N=3578) |
| --- | --- | --- | --- |
| Fever | 98.7 | 99.2 | 98.8 |
| Difficulty breathing | 98.0 | 97.4 | 97.8 |
| Dry cough | 92.6 | 93.1 | 92.8 |
| Tiredness | 79.9 | 76.3 | 78.9 |
| Sore throat | 78.1 | 76.8 | 77.8 |
| Headache | 72.8 | 70.2 | 72.1 |
| Body pain | 63.0 | 63.0 | 63.0 |
| Chest pain | 57.9 | 59.5 | 58.3 |
| Diarrhea | 37.7 | 44.7 | 39.5 |
| Asymptomatic | 31.1 | 34.1 | 31.9 |
| Other | 0.6 | 0.7 | 0.6 |
| Don't know | 0.7 | 0.3 | 0.6 |

*\*4 participants of other gender excluded.*

Table 11 presents the proportion of knowledge on “no cases”, “sporadic cases”, “cluster of cases” and “community transmission” as defined by WHO. The study found that majority of participants had knowledge on “no cases” (95.5%), sporadic cases (79.8%), cluster of cases (71.5%) and community transmission (72.2%).

Table 11 Knowledge about term definitions given by WHO. (N=3578)

|  | Male | |  | Female | |  | Total | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Percent | N |  | Percent | N |  | Percent | N |
| **What does “no cases” mean?** | | | | | | | | |
| Areas with no confirmed cases | 95.8 | 2511 |  | 94.7 | 906 |  | 95.5 | 3417 |
| Areas with one or more cases, imported or locally detected | 2.0 | 53 |  | 1.7 | 16 |  | 1.9 | 69 |
| Areas experiencing cases, clustered in time, geographic location or by common exposures | 1.7 | 45 |  | 3.1 | 30 |  | 2.1 | 75 |
| Areas experiencing larger outbreaks of local transmission | .5 | 12 |  | .5 | 5 |  | .5 | 17 |
| **What does “sporadic cases” mean?** | | | | | | | | |
| Areas with no confirmed cases | 2.2 | 57 |  | 1.5 | 14 |  | 2.0 | 71 |
| Areas with one or more cases, imported or locally detected | 81.7 | 2141 |  | 74.3 | 711 |  | 79.7 | 2852 |
| Areas experiencing cases, clustered in time, geographic location or by common exposures | 14.8 | 387 |  | 21.1 | 202 |  | 16.5 | 589 |
| Areas experiencing larger outbreaks of local transmission | 1.4 | 36 |  | 3.1 | 30 |  | 1.8 | 66 |
| **What does “cluster of cases” mean?** | | | | | | | | |
| Areas with no confirmed cases | 1.0 | 25 |  | .1 | 1 |  | .7 | 26 |
| Areas with one or more cases, imported or locally detected | 17.4 | 457 |  | 20.5 | 196 |  | 18.3 | 653 |
| Areas experiencing cases, clustered in time, geographic location or by common exposures | 73.1 | 1915 |  | 67.0 | 641 |  | 71.4 | 2556 |
| Areas experiencing larger outbreaks of local transmission | 8.5 | 224 |  | 12.4 | 119 |  | 9.6 | 343 |
| **What does “community transmission” mean?** | | | | | | | | |
| Areas with no confirmed cases | .7 | 18 |  | .5 | 5 |  | .6 | 23 |
| Areas with one or more cases, imported or locally detected | 6.9 | 180 |  | 8.5 | 81 |  | 7.3 | 261 |
| Areas experiencing cases, clustered in time, geographic location or by common exposures | 19.8 | 520 |  | 20.2 | 193 |  | 19.9 | 713 |
| Areas experiencing larger outbreaks of local transmission | 72.6 | 1903 |  | 70.8 | 678 |  | 72.1 | 2581 |

*\*4 participants of other gender excluded*

Table 12 presents the proportion of participant’s knowledge on various aspects of COVID-19 prevention, control and outcomes. The understanding on social distancing, isolation and quarantine was found to be 89.7%, 92.4% and 83% respectively. Around 70% people told that old people are more likely to die from COVID-19 than children and young people. Ninety-five percentage of the participants were aware that the people with pre-existing health conditions have higher chances of getting sick due to COVID-19. Majority (78%) had knowledge about the percentage of severity of COVID-19. The proportion of participants who had understanding that COVID-19 can be transmitted by asymptomatic cases was 85.4%. Some participants (7.2%) said that children and young adults are not required to take measures to prevent the infection of corona virus. Nearly 2/3rd participants had the knowledge that personal protective equipment (PPE) should only be used by the frontline healthcare professional attending/ treating suspected or diagnosed cases of COVID-19. Around 13% of the people have misunderstanding that the recovered patients should not be kept in the community. The mean score for the knowledge of the participants regarding the different aspects of COVID-19 was 9.74 (1.59 SD) out of 12 with overall 81.2% correct rate.

Among the four participants from third gender, two understood social distancing, three understood isolation and all understood quarantine. Half of them knew that older people are most likely to die from the disease and all of them knew that preexisting disease increases the chances of getting sick with the disease. Half of them knew about the chances of getting mild, moderate or severe disease and three knew that asymptomatic people can also transmit the disease. All of these participants knew that children and young adults should also take precaution not to transmit the disease. Three knew that PPE should be worn only by frontline healthcare workers treating COVID-19 patients. All of the four participants of other gender knew that recovered patients should be kept in the community. These participants have not been included in table 12 because of very few participants in the group.

Table 12 Knowledge about different aspects of COVID 19 (N=3578)

|  | Male | | | | Female | | | | Total | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Percent | | N | | Percent | | N | | Percent | | N | |
| **What do you mean by social distancing?** | | | | | | | |  | |  | |  | |
| No meetings | | 6.6 | | 172 | | 9.5 | | 91 | | 7.4 | | 263 | |
| Maintaining 3 feet distance in essential social meetings | | 90.7 | | 2376 | | 87.1 | | 834 | | 89.7 | | 3210 | |
| Maintaining less than 3 feet distance in essential social meetings | | 2.6 | | 68 | | 3.2 | | 31 | | 2.8 | | 99 | |
| Don’t know | | .2 | | 5 | | .1 | | 1 | | .2 | | 6 | |
| **What is isolation?** | |  | |  | |  | |  | |  | |  | |
| Treating sick people keeping them separate from the rest | | 92.1 | | 2413 | | 93.2 | | 892 | | 92.4 | | 3305 | |
| Observing well people keeping them separate from the rest | | 7.6 | | 200 | | 6.5 | | 62 | | 7.3 | | 262 | |
| Don’t know | | .3 | | 8 | | .3 | | 3 | | .3 | | 11 | |
| **What is quarantine?** | |  | |  | |  | |  | |  | |  | |
| Treating sick people keeping them separate from the rest | | 17.9 | | 468 | | 13.6 | | 129 | | 16.7 | | 598 | |
| Observing well people keeping them separate from the rest | | 81.8 | | 2145 | | 86.2 | | 824 | | 83.0 | | 2970 | |
| Don’t know | | .3 | | 8 | | .2 | | 2 | | .3 | | 10 | |
| **Which age group is most likely to die from COVID-19?** | | | | | | | | | | | |  | |
| Children | | 29.9 | | 781 | | 35.2 | | 336 | | 31.2 | | 1118 | |
| Young people | | 1.8 | | 47 | | 2.0 | | 19 | | 1.8 | | 66 | |
| Old people | | 68.3 | | 1788 | | 62.8 | | 600 | | 66.9 | | 2394 | |
| **What is the chance of getting sick in people already having other health problems?** | | | | | | | | | | | | | |
| Chances of getting sick increases | | 94.5 | | 2476 | | 96.6 | | 924 | | 95.0 | | 3400 | |
| No chances of getting sick | | .5 | | 12 | | .2 | | 2 | | .4 | | 14 | |
| No difference from others | | 5.1 | | 133 | | 3.2 | | 31 | | 4.6 | | 164 | |
| **What percentage of people infected with COVID-19 get mild, moderate and severe disease, respectively?** | | | | | | | | | | | | | |
| 80 mild, 15 moderate and 5 severe | | 79.9 | | 2094 | | 72.9 | | 698 | | 78.0 | | 2792 | |
| 50 mild, 25 moderate and 25 severe | | 12.9 | | 337 | | 17.9 | | 171 | | 14.2 | | 508 | |
| 5 mild, 15 moderate and 80 severe | | 7.2 | | 190 | | 9.2 | | 88 | | 7.8 | | 278 | |
| **Asymptomatic COVID-19 infected people can transmit this disease** | | | | | | | | | | | | | |
| Yes | | 84.4 | | 2213 | | 88.2 | | 844 | | 85.4 | | 3057 | |
| No | | 12.2 | | 320 | | 9.0 | | 86 | | 11.3 | | 406 | |
| I don't know | | 3.4 | | 88 | | 2.8 | | 27 | | 3.2 | | 115 | |
| **It is not necessary for children and young adults to take measures to prevent the infection by the COVID-19 virus.** | | | | | | | | | | | | | |
| Yes | | 7.9 | | 207 | | 5.3 | | 51 | | 7.2 | | 258 | |
| No | | 91.0 | | 2386 | | 93.5 | | 895 | | 91.7 | | 3281 | |
| I don't know | | 1.1 | | 28 | | 1.2 | | 11 | | 1.1 | | 39 | |
| **Personal Protective equipment (PPE) should be used by** | | | | | | | | | | | | | |
| General public | | 1.1 | | 30 | | 1.1 | | 11 | | 1.1 | | 41 | |
| All the employees working in public sector | | 13.7 | | 359 | | 12.9 | | 123 | | 13.5 | | 482 | |
| Frontline Healthcare professional attending/ treating Covid-19 suspected or diagnosed cases | | 64.6 | | 1692 | | 62.7 | | 600 | | 64.1 | | 2292 | |
| All the healthcare professionals | | 20.6 | | 540 | | 23.3 | | 223 | | 21.3 | | 763 | |
| **Recovered patients should** | |  | |  | |  | |  | |  | |  | |
| Be kept in community | | 87.0 | | 2280 | | 87.7 | | 839 | | 87.2 | | 3119 | |
| Not be kept in community | | 13.0 | | 341 | | 12.3 | | 118 | | 12.8 | | 459 | |

*\*4 participants of other gender excluded*

Table 13 describes the understanding of participants on the treatment of COVID-19. When asked which treatment works best, 86% participants responded that symptomatic and supportive treatment works best and 12% believed that intensive care is required as shown in table 14. Around 2% of participants thought that herbal/home remedies are best for COVID-19 patients.

Table 13 Understanding of participants on treatment of COVID 19 (N=3582)

|  | Symptomatic | |  | Herbal | |  | Allopathic | |  | | Intensive care | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Percent | N |  | Percent | N |  | Percent | N | |  | | Percent | N | | |
| **Gender** |  |  |  |  |  |  |  |  | |  | |  |  | | |
| Male | 84.0 | 2201 |  | 2.0 | 52 |  | .3 | 7 | |  | | 13.8 | 361 | | |
| Female | 91.5 | 876 |  | 1.0 | 10 |  | .1 | 1 | |  | | 7.3 | 70 | | |
| **Total** |  | **3077** |  |  | **62** |  |  | **8** | |  | |  | **431** | | |
| **Participant's residence** | | | | | | | | | | | | | |
| Province 1 | 85.3 | 250 |  | 2.4 | 7 |  | .3 | 1 | |  | | 11.9 | 35 | | |
| Province 2 | 86.3 | 176 |  | 1.0 | 2 |  | 1.5 | 3 | |  | | 11.3 | 23 | | |
| Bagmati province | 85.6 | 2008 |  | 1.6 | 37 |  | .2 | 4 | |  | | 12.6 | 296 | | |
| Gandaki province | 89.5 | 239 |  | 1.9 | 5 |  | .0 | 0 | |  | | 8.6 | 23 | | |
| Province 5 | 87.0 | 268 |  | 1.9 | 6 |  | .0 | 0 | |  | | 11.0 | 34 | | |
| Karnali province | 80.7 | 46 |  | 7.0 | 4 |  | .0 | 0 | |  | | 12.3 | 7 | | |
| Sudurpaschim province | 87.0 | 94 |  | .9 | 1 |  | .0 | 0 | |  | | 12.0 | 13 | | |
| **Education** |  |  |  |  |  |  |  |  | |  | |  |  | | |
| Secondary level or lower | 86.9 | 152 |  | 1.1 | 2 |  | .0 | 0 | |  | | 12.0 | 21 | | |
| Higher secondary level | 87.4 | 640 |  | 3.0 | 22 |  | .0 | 0 | |  | | 9.6 | 70 | | |
| Bachelor's level | 88.1 | 1237 |  | 1.3 | 18 |  | .4 | 5 | |  | | 10.3 | 144 | | |
| Master's level or higher | 82.8 | 1052 |  | 1.6 | 20 |  | .2 | 3 | |  | | 15.4 | 196 | | |
| **Occupation** |  |  |  |  |  |  |  |  | |  | |  |  | | |
| Unemployed | 87.0 | 629 |  | 2.9 | 21 |  | .3 | 2 | |  | | 9.8 | 71 | | |
| Health care | 94.1 | 634 |  | .7 | 5 |  | .4 | 3 | |  | | 4.7 | 32 | | |
| Other occupation | 83.2 | 1818 |  | 1. | 36 |  | .1 | 3 | |  | | 15.0 | 328 | | |
| **Total** | **86.0** | **3081** |  | **1.7** | **62** |  | **.2** | **8** | |  | | **12.0** | **431** | | |

*\*4 participants of other gender excluded on the gender section*

## 3.3 Public response on COVID-19

The section describes the public response to novel corona virus in Nepal.

Majority of participants mentioned that they are going to self-quarantine/ isolate themselves if they have fever as shown in table 14. A majority (98.9%) thought that travel was not safe during lockdown. More than half (55.8%) of the participants would call the Ministry of Health and Population (MoHP) Nepal toll-free hotline number 1115 or 1133 if the disease is suspected, 31.2% would go to nearest healthcare center while 12.4% would rest more than usual and call a doctor after 2-3 days if they still feel sick.

All four participants from other gender would self-quarantine/ isolate if they have fever and all of them thought travelling across or within the country is not safe during lockdown. None of the four responded that they would go to nearest health care center if disease suspected. Two responded that they would call the toll-free number in that case while two would rest more than usual and call doctor if they still feel sick after 2-3 days.

Table 14 Public response on prevention of transmission of COVID 19. (N=3578)

|  | Male | | Female | | Total | |
| --- | --- | --- | --- | --- | --- | --- |
| Percent | N | Percent | N | Percent | N |
| **Are you going to self-quarantine/ isolate yourself if you have fever?** | | | | | | |
| Yes | 96.5 | 2529 | 98.4 | 942 | 97.0 | 3471 |
| No | 3.5 | 92 | 1.6 | 15 | 3.0 | 107 |
| **Travel across or within the country is safe during lockdown?** | | | | | | |
| Yes | 1.4 | 37 | .3 | 3 | 1.1 | 40 |
| No | 98.6 | 2584 | 99.7 | 954 | 98.9 | 3538 |
| **What would be the best course of action if disease suspected?** | | | | | | |
| Go to your nearest health care center | 32.7 | 856 | 27.1 | 259 | 31.2 | 1115 |
| Have someone drive you to the emergency room | .3 | 9 | 1.1 | 11 | .6 | 20 |
| Call the toll-free hotline number 1115 or 1133 | 54.9 | 1439 | 58.4 | 559 | 55.8 | 1998 |
| Rest more than usual, call doctor if you still feel sick after 2-3 days | 12.1 | 317 | 13.4 | 128 | 12.4 | 445 |

*\*4 participants of other gender excluded*

More than a third (36%) of the participants washed recently bought groceries with warm water before taking inside house in order to prevent infection due to COVID-19. Some participants kept outside for few days (20.9%) and some kept in salt water before use (12.7%). The study found that 15.3% of participants washed the groceries with soap and water before use while 15% did not use any precautions. (Figure 4)

Figure 4 Measures used by participants to prevent infection from groceries. (N= 3582)



More than 3/4th (78.7%) of the participants had obeyed the lockdown till the study period, as shown in table 15, and 4.6 % had breached lockdown more than 5 times.

Table 15 Distribution of participants according to their adherence to lockdown. (N= 3578)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Male | |  | Female | |  | Total | |
|  | Percent | N |  | Percent | N |  | Percent | N |
| Breached 1-5 times | 18.3% | 480 |  | 12.2% | 117 |  | 16.7% | 597 |
| Breached more than 5 times | 5.3% | 140 |  | 2.7% | 26 |  | 4.6% | 166 |
| Not breached | 76.3% | 2001 |  | 85.1% | 814 |  | 78.7% | 2815 |

*\*4 participants of other gender excluded*

Majority of participants (93.7%) had avoided crowded place. More than half (52.6%) of participants had used surgical mask and 2.1% didn’t use mask when leaving home as shown in figure 5.

Figure 5 Types of mask used by participants. (N=3582)



Half of the participants had washed used masks or kept in sun and reused as shown in figure 6.

Figure 6 Used mask management by participants. (N=3500)



*\*Non-Response=7; 75 participants don’t use mask.*

Out of five questions regarding government’s efforts to stop disease transmission, majority of the participants were in favor of various efforts of government for controlling infection of COVID-19. Participants’ support of each strategy is shown in table 16.

Table 16 Participants’ response to government’s efforts to control COVID-19. (N=3578)

|  |  |  |  |
| --- | --- | --- | --- |
|  | Male  (N=2621) | Female  (N=957) | Total  (N=3578) |
| Quarantining everyone returning from abroad for 14 days | 98.0 | 98.4 | 98.1 |
| Suspending air travel | 96.8 | 96.4 | 96.7 |
| Closing schools | 95.4 | 95.5 | 95.4 |
| Forbidding mass gatherings | 98.4 | 98.5 | 98.5 |
| Lockdown | 92.4 | 94.7 | 93.0 |

*\*4 participants of other gender excluded*

When asked on measures for prevention during similar future outbreaks, the participants had various responses as shown in table 17. Majority mentioned cleanliness (94.3%), distancing (89.6%), rapid case finding (85.9%), improving infrastructure (85.8%), improving diagnosis (83.6%) as the important measures to prevent infection during similar outbreaks. Other responses to this question included conservation of nature, changing eating habits, adequate agricultural production, use of technologies, helping the needy, sealing borders, developing mobile banking and online market.

Table 17 Participants’ response on measures to be adopted during future similar outbreaks. (N=3578)

|  |  |  |  |
| --- | --- | --- | --- |
|  | Male  (N=2621) | Female  (N=957) | Total  (N=3578) |
| Cleanliness | 93.6 | 96.2 | 94.3 |
| Distancing | 88.9 | 91.6 | 89.6 |
| Rapid finding new cases | 85.8 | 86.4 | 85.9 |
| Improving infrastructures | 85.9 | 85.5 | 85.8 |
| Improving diagnosis | 83.3 | 84.5 | 83.6 |
| Maintaining health | 79.9 | 85.3 | 81.4 |
| Not panicking | 79.5 | 84.5 | 80.9 |
| Enforcing authentic orders | 79.2 | 81.0 | 79.7 |
| Improving communication | 69.0 | 72.2 | 69.8 |
| Avoiding stockpile | 53.1 | 51.3 | 52.7 |
| Stopping air travel | 45.2 | 40.5 | 43.9 |
| Other | 5.8 | 3.3 | 5.1 |

*\*4 participants of other gender excluded*

The problems the participants faced during the lockdown were difficulty getting daily consumable items (58%), economic burden for not having job (30.6%), mental illness due to fear (11%) and domestic violence like verbal, physical, sexual (0.4%) as shown in figure 7. Out of the four participants from other gender, two said they were facing problems getting daily consumable items while the other two said they were facing economic burden from not having job.

Figure 7 Problems faced by participants during lockdown. (N=3420)



*\* Non-Response=162*

# CHAPTER 4. DISCUSSION

This cross-sectional online study showed good prevalence of knowledge among the participants about transmission, symptoms and approach towards disease. The response of public towards self-protection and adherence to government’s efforts of containing outbreak was also found to be effective. However, these are self-reported knowledge and perceptions and these may be different in actual practice.

The findings of this study corroborate with other similar studies done in different parts of the world (8, 9, 10). It should be noted, however, that there are very few literatures available on the topic at present as this is an emerging topic.

The study was conducted via official online portal of the government. The large number of participants involved has contributed to the strength of this study.

However, non-random sampling and online deployment of questionnaire has limited the participants to those with good internet access and excluded others.

# CHAPTER 5. CONCLUSION

This was an online survey with a large sample size including people from all over the country from different demographic characteristics.

It was found that participants had heard about the disease mostly from news or social media. A larger proportion of people were ready to self-isolate if they have fever and cough and attend health care center if suspected with the disease. More than 90% people supported the government’s efforts of quarantining people coming from abroad, suspending air travel into the country, closing all schools, forbidding mass gatherings, and enforcing a lockdown. When asked about major symptoms, most participants knew that fever, cough and headache are the major symptoms.

When asked about major modes of transmission, most participants knew that droplets, coughing/ sneezing and touching transmitted the disease. More than 95% of participants thought hand hygiene, avoiding close contact with sick or touching one’s face helped prevent spread while one fourth of participants didn’t think a mask would help. Public awareness needs to be increased in this front. About 98% participants use a mask while going outside, but about half of them reuse the mask after washing or keeping in the sun. Accessibility to disposable mask should be made a priority so that they are used and disposed of as instructed. It was seen that more than 95% participants were having at least one problem due to the lockdown, out of which more than half of them having problems getting daily consumable items and a third of the participants were facing economic burden.

Public are the most important stakeholder for containment of any outbreak in the community. Public understanding and their response plays an important role in preventing the spread of COVID-19 disease in the community. Adhering to national guidelines and adopting universal safety precautions by public can eventually help government to implement different strategies to control COVID-19 pandemic in Nepal.

# CHAPTER 6. RECOMMENDATIONS

To contain this pandemic, the awareness of the public can play an important role. Therefore, government should continue and update its strategies to raise awareness to help reduce transmission of COVID-19. Further, the government needs and to develop strategies to counter the myths related to Covid-19

As a large number of people in the study used masks, accessibility to disposable mask should be made a priority so that they are used and disposed of as instructed.

The study revealed that participants believed in myths like drinking hot water, gargling, taking hot showers etc. prevent COVID-19. Awareness regarding the misconceptions on COVID-19 prevention is required.

The study found that majority of the public were facing problems due to lockdown. Government interventions should focus on minimizing the public issues and problems due to lockdown while preventing COVID-19 transmission in the country.

# CHAPTER 7. REFERENCES

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# CHAPTER 8. ANNEXES

## 8.1 Information sheet:

You are invited to participate in this research study on knowledge and response that adults (18 years or more) residing in Nepal have of the COVID-19. You will be presented with questions on the COVID-19 disease, its causes and outbreak. The objective of this research is to collect information on how to help future public health efforts in similar problems, and particularly how to conduct public information campaigns and do public health programs.

TIME: Answering these questions will take you 5 to 10 minutes.

RISKS, BENEFITS and DEMERITS: There are no foreseeable risks associated with this study. There are no direct benefits to you from participating in this study. However, the information you provide may help improve public health efforts and, thus, reduce harm from this epidemic.

PARTICIPANT'S RIGHTS: If you have read this form and have decided to participate in this project, please understand that your participation is voluntary and you have the right to withdraw your consent or discontinue participation from this study at any time. This will not result in any penalty or loss of benefits for you. The results of this research study may be presented at scientific meetings or published in scientific journals. Your individual privacy will be maintained in all published and written data resulting from the study.

QUESTIONS: If you have any questions, concerns or complaints about this research, its procedures, risks and benefits, contact the proposal director in this email: [covid19understandingnepal@gmail.com](mailto:covid19understandingnepal@gmail.com)

## 8.2 Informed consent:

I have read the ‘information sheet’ above and understood about this research study. I have understood that my participation in this study depends on my personal interest and I know that I can withdraw from this research process at any time. I have understood that I won’t have to give any reason for withdrawing and this will not make any difference in the services or lawful rights that I am already entitled to. I have also understood that my personal information will not be included in the report of this study or any related publications. After understanding all this, I have consented to take part in this study by signing this informed consent.

Do you agree to participate in study?

* Yes
* No

What is your mobile number?

.............................. (Please enter a number you use in Nepal. Nepali typing is not necessary. For protecting your privacy, this number will not be associated with your responses and after the completion of this study, the record of this number will be destroyed.)

## 8.3 Questionnaire:

1. Which province of Nepal do you live in at present?

• 1

• 2

• 3 (Bagmati)

• 4 (Gandaki)

• 5

• 6 (Karnali)

• 7 (Sudurpaschim)

• Not currently in Nepal

2. What is your age?

…………………………….. (Please enter a number. Decimals are not allowed.)

3. What do you identify yourself as?

• Male

• Female

• Other

4. What is your marital status?

• Married

• Unmarried

• Other (Divorced, separated, widowed)

5. What is the highest level of education you have completed?

• Below secondary level

• Secondary level or equivalent

• Higher secondary level

• Bachelor’s level

• Master’s level

• Doctorate

6. What is your occupation?

• Unemployed.

• Health care

• Other occupation

7. What is your ethnicity?

• Brahmin/ Chhetri

• Newar

• Adibasi/ Janajati

• Other

8. What is the major source of your daily news?

• Newspapers

• Radio/ TV

• Internet (online newspapers)

• Social network (facebook, twitter, youtube, etc)

• Talking with people

9. What is your estimated monthly household income (in NRs.)?

• Less than 9,999

• 10,000 to 19,999

• 20,000 to 29,999

• 30,000 to 39,999

• 40,000 to 49,999

• More than 50,000

10. Have you heard about COVID-19?

• Yes

• No

11. If yes, where did you first learn about COVID-19?

• News (TV, FM, radio, newspaper)

• Social media (facebook, twitter, youtube, etc.)

• Word of mouth (friends, relatives, etc.)

12. As categorized by WHO, what does “no cases” mean?

• Countries/territories/areas with no confirmed cases

• Countries/territories/areas with one or more cases, imported or locally detected

• Countries/territories/areas experiencing cases, clustered in time, geographic location and/or by common exposures

• Countries/area/territories experiencing larger outbreaks of local transmission

13. As categorized by WHO, what does “sporadic cases” mean?

• Countries/territories/areas with no confirmed cases

• Countries/territories/areas with one or more cases, imported or locally detected

• Countries/territories/areas experiencing cases, clustered in time, geographic location and/or by common exposures

• Countries/area/territories experiencing larger outbreaks of local transmission

14. As categorized by WHO, what does “clusters of cases” mean?

• Countries/territories/areas with no confirmed cases

• Countries/territories/areas with one or more cases, imported or locally detected

• Countries/territories/areas experiencing cases, clustered in time, geographic location and/or by common exposures

• Countries/area/territories experiencing larger outbreaks of local transmission

15. As categorized by WHO, what does “community transmission” mean?

• Countries/territories/areas with no confirmed cases

• Countries/territories/areas with one or more cases, imported or locally detected

• Countries/territories/areas experiencing cases, clustered in time, geographic location and/or by common exposures

• Countries/area/territories experiencing larger outbreaks of local transmission

16. What do you mean by social distancing?

• No meetings

• Maintaining 3 feet distance in essential social meetings

• Maintaining less than 3 feet distance in essential social meetings

• Don’t know

17. What is isolation?

• Treating sick people keeping them separate from the rest

• Observing well people keeping them separate from the rest.

• Don’t know

18. What is quarantine?

• Treating sick people keeping them separate from the rest

• Observing well people keeping them separate from the rest.

• Don’t know

19. How do people get infected with COVID-19? (multiple responses)

• Touching

• Kissing

• During coughing, sneezing

• Droplets of secretion/ saliva

• Sexual intercourse

• Food

• Don’t know

• Other ………

20. The main clinical symptoms of COVID-19 are:

• Fever,

• Headache,

• Sore throat,

• Fatigue,

• Dry cough,

• Myalgia,

• Chest pain,

• Difficulty breathing

• No symptoms

• Diarrhea

• Don’t know

• Other ……….

21. Which of the following actions help prevent catching an infection with the new coronavirus? (Please select ‘Yes’, ‘No’ or ‘I don’t know’ for each option)

|  |  |  |  |
| --- | --- | --- | --- |
|  | Yes | No | I don’t know |
| - Wear a general mask |  |  |  |
| - Gargling |  |  |  |
| - Washing your hands / sanitizing regularly |  |  |  |
| - Eating garlic |  |  |  |
| - Drinking hot water |  |  |  |
| Avoid close contact (distance of more than 3 ft) with people who are sick |  |  |  |
| Using a hand dryer |  |  |  |
| Avoiding touching your eyes, nose, and mouth |  |  |  |
| Regularly rinsing your nose with saline |  |  |  |
| Disinfecting touched objects regularly |  |  |  |
| Warm shower |  |  |  |
| Not importing goods from abroad |  |  |  |
| Avoiding mosquito bites |  |  |  |
| Ultraviolet disinfection |  |  |  |
| Sprinkling body with alcohol and chlorine (bleach) |  |  |  |
| Distancing yourself from pets (domestic animals) |  |  |  |
| Getting vaccinated against pneumonia |  |  |  |

22. Of those infected, which age group is most likely to die from COVID-19? Select all possible options

• Children

• Young people

• Old people

23. What is the chance of getting sick in people already having other health problems (hypertension, diabetes, cancer)?

• Chances of getting sick increases

• No chances of getting sick

• No difference from others

24. What percentage of people infected with COVID-19 get mild, moderate and severe disease, respectively?

• 80% mild, 15% moderate and 5% severe

• 50% mild, 25% moderate and 25% severe

• 5% mild, 15% moderate and 80% severe

25. Which treatment works best in your opinion?

• Symptomatic and supportive treatment.

• Herbal (home) remedies

• Allopathic Medicines

• Intensive care treatment if infected

26. Asymptomatic COVID-19 infected people cannot transmit this disease to others.

• Yes

• No

• Don’t know

27. It is not necessary for children and young adults to take measures to prevent the infection by the COVID-19 virus.

• Yes

• No

• I don’t know

28. Personal Protective equipment (PPE) should be used by

• General public

• All the employees working in public sector

• Frontline Healthcare professional attending/ treating Covid-19 suspected or diagnosed cases

• All the healthcare professionals

29. Recovered patients should

• Be kept in the community

• Not be kept in the community

30. Till date, how many COVID-19 testing labs are present in Nepal?

…………

31. Till date, how many hub hospitals to treat COVID-19 are present in Nepal?

…………

32. Are you going to self-quarantine/ isolate yourself if you have fever?

• Yes

• No

33. Do you think travel across or within the country is safe during lockdown?

• Yes, it is safe

• No, it is not safe

34. If you or your relative has a fever or cough and recently visited abroad, or spent time with someone who did, what would be the best course of action? (Please select one response option only)

• Go to your nearest health care center

• Have someone drive you to the emergency room

• Stay home and call the Ministry of Health and population toll-free hotline number 1115 or 1133

• Rest more than usual and then call your primary care doctor if you still feel sick after 2-3 days

35. At this point in the coronavirus epidemic, which of the following of the government’s efforts or approach do you think is effective to prevent spread of the virus? (Please select ‘Yes’, ‘No’ or ‘I don’t know’ for each option)

|  |  |  |  |
| --- | --- | --- | --- |
|  | Yes | No | I don’t know |
| - Quarantine everyone coming in from abroad for 14 days |  |  |  |
| - Suspend all air/ travel to your country |  |  |  |
| - Close all schools |  |  |  |
| - Forbid any mass gatherings (e.g., sport events or concerts) |  |  |  |
| - Require everyone to remain in their home except to seek medical care and obtain food |  |  |  |

36. To protect yourself from being infected, how do you manage clothes worn outside?

• Wear at home

• Keep outside house

• Wash

• Keep inside house

• Keep in the sun

37. To protect yourself from being infected, how do manage groceries recently bought before entering house?

• Keep in salt water before using

• Wash in soap water

• Keep outside for few days

• Wash with warm water

• No precaution

38. How many times do you think you have breached lockdown?

• 1-5

• More than 5

• None

39. In recent days, have you gone to any crowded place?

• Yes

• No

40. When leaving home, what type of mask do you use?

• Cloth mask/ homemade mask

• Surgical mask

• N-95 mask

• Don’t use mask

41. What do you do with your used masks? (if your answer to previous question was “Don’t use mask”, you can leave this question)

• Discard in trashcan with lid

• Keep and reuse

• Wash or keep in sun and reuse

• Discard as other objects

42. What problems have you been facing due to lockdown?

• Getting daily consumable items

• Economic burden from not having job

• Mental illness due to COVID-19 fears

• Domestic violence (verbal, physical, sexual)

43. For preparedness of similar future disease outbreaks, which of the following measures can be adopted? (Please select all applicable responses)

• Maintain personal hygiene and sanitary environment

• Not to stockpile daily essential items

• Develop a mechanism of early identification and detection of new diseases

• In case of communicable diseases outbreak practice social distancing, minimize mass gatherings

• Develop testing modalities

• Suspend air travel

• In national level, invest on the health facility (infrastructure and equipment) building and improve number and quality of healthcare professional

• In national level, develop effective modes of communication

• Enforce the instructions given by the authority.

• Maintain physical and mental health

• Be aware and calm but not apprehensive

• Other………