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Research Article

# Knowledge, attitude, and practice regarding COVID-19 among doctors of Janakpur, Nepal

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**ABSTRACT**

**Background and Objectives:** COVID-19 is a global pandemic. Practicing hand and respiratory hygiene is important at all times and is the best way to protect others and oneself from COVID-19. People's behavior plays important role in control of any infectious disease. Knowledge, attitude and practices (KAP) of a person determines the adherence to the control measures. As doctors are the frontline warriors in this pandemic, an online surveywas conducted among the doctors of Janakpur for the assessment of their knowledge, attitude and practice regarding COVID-19.

**Material and Methods:** This study is a cross-sectional online survey using self administered Questionnaire designed after proper literature survey. The survey was conducted from 4th August, 2020 to 20th August, 2020.

**Results:** Overall knowledge about the various aspects of COVID-19 among the doctors of Janakpur was 81.25%. A positive attitude was noted among 78.12% of the respondents. However, majority (90.6%) of the doctors thought that the country is not prepared to handle the pandemic. Good practice to prevent and treat COVID-19 was shown by 84.37% of the doctors.

**Conclusion:** Doctors of Janakpur show good knowledge, a positive attitude and good practice on various aspects of COVID-19.A significant positive correlation exists between knowledge, attitude and practice among them.

**Keywords:** Attitude, COVID-19, doctors, Knowledge, Practice

## INTRODUCTION

COVID-19 is a global pandemic caused by "Severe Acute Respiratory Syndrome Coronavirus 2".[1]The symptoms vary from asymptomatic to severe illness. People get infected with COVID-19 from other infected person. The disease spreads from person to person through droplets expelled from the nose or mouth while coughing, sneezing or speaking. Practicing hand and respiratory hygiene is important at all times and is the best way to protect others and oneself from Corona and other infectious diseases. It is important to stay at least 1 meter away from others especially from those who are coughing or sneezing [1]. People can also become infected-by touching the objects in contact with droplets, then touching their eyes, nose or mouth. Washing hands

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regularly with soap and water or clean with alcohol-based sanitizer and use of mask helps in preventing the spread.

People's behavior plays important role in control of any infectious disease. Knowledge, attitude and practices (KAP) of a person determines the adherence to the control measures [2-5]

As doctors are the frontline warriors in this pandemic, an online surveywas conducted among the doctors of Janakpur for the assessment of their knowledge, attitude and practice regarding COVID-19. The study was conducted with the aim of setting the benchmark and to be used as point of reference in the future.

## MATERIALS AND METHODS

A cross-sectional online survey was conducted from 4th August, 2020 to 20th August, 2020.All the respondents were from Janakpur zone.Interns of Janaki Medical College and Teaching Hospital(JMCTH), medical officers and specialists (from all branches of medicine) in Janakpur were included in the study.Approval was obtained from JMCTH Research Ethics Committee before starting the project. A self administered google form was created consisting of 44 questions. The form included information about gender and place of work of the responder. The form had three sections with 14 questions on knowledge, and 15 each in attitude and practice regarding COVID-19. Google form was sent via mail to the respondents. After pretesting required changes were made in the questionnaire.

Each response has been given a score of 1 for the correct and 0 for the incorrect one.Maximum possible scores were 14, 16 and 24 in knowledge, attitudes and practices sections respectively. Previous researches of similar nature were studied and the scoring system was adapted and modified based on these studies [6-10]. Level classification for total scores of knowledge, attitude and practice (KAP) was done as shown in Table 1.

**Table 1: Classification of the scores (KAP)**

| Percentage of total scores (%) | Level |
|---|---|
| **80-100** | Good |
| **60-79** | Moderate/fair |
| **< 60** | Poor |

## RESULTS

A total of 64 doctors responded to the questionnaire. Out of them 21.9% were female and 78.1% were male (Table 2).

**Table 2: Distribution of respondents according to gender**

| Gender | Number | % |
|---|---|---|
| **Female** | 14 | 21.9 |
| **Male** | 50 | 78.1 |

Out of 64 doctors, 65.62% doctors were working at more than one place (Table 3).

**Table 3: Workplace of respondents**

| Workplace | Number | % |
|---|---|---|
| **Single** | 22 | 34.38 |
| **More than one** | 42 | 65.62 |

Table 4 below represents overall distribution of knowledge, attitudes and practices regarding COVID-19 among the doctors of Janakpur.

**Table 4: Level of knowledge, attitude and practice**

| Level | Knowledge | Attitudes | Practices |
|---|---|---|---|
| **Mean± SD** | 10.03± 1.66 | 11.62±1.97 | 19.20± 1.41 |
| **Good** | 34.38% | 40.62% | 43.75% |
| **Moderate/fair** | 46.87% | 37.5% | 40.62% |
| **Poor** | 18.75% | 21.88% | 15.63 |

***Knowledge Assessment:*** Table 5 represents the range of correct answers in the knowledge assessment section. This section contained 14

questions. As noted in table except knowledge about the name of the virus causing COVID-19 all the correct answers were above 50%.

**Table 5: Correct answer percentage in knowledge section**

| Questions to assess knowledge | % of respondents with correct answer |
|---|---|
| Name of the virus causing Coronavirus disease | 21.9 |
| Transmission modes | 75 |
| Incubation period | 65.6 |
| People more at risk | 65.6 |
| Symptoms | 75 |
| Diagnostic test | 95.31 |
| Spread of disease from asymptomatic people | 84.4 |
| Specific treatment for the virus | 84.4 |
| Isolation in person with mild disease | 90.6 |
| Myths about coronavirus disease prevention | 84.4 |
| Drugs for the prevention of Coronavirus disease | 71.9 |
| Correct use of Personal Protective Equipment(PPE) | 90.6 |
| Requirement of PPE | 81.3 |
| Hand hygiene knowledge | 90.6 |

**Attitude Assessment:** There were 15 questions to assess the attitude of doctors of Janakpur towards COVID-19 pandemic.

***Practice Assessment:*** There were 15 questions designed to assess the practices among doctors regarding COVID-19. Self explanatory table 7 represents the responses that received highest percentage.

Correlation between knowledge, attitude and practice was calculated and is represented below in Figure 1, 2 and 3. Relation between knowledge and attitude is presented in linear diagram, figure 1. Similarly, relation between knowledge and practice is presented in figure 2. Figure 3 shows the relationship between Attitude and Practice. All the relationship are linear in nature with correlation value and p value mentioned just below the figure.

**Table 6: Response with highest percentage in attitude section**

| Questions to assess attitude | Response with Highest % |
|---|---|
| Worried about getting COVID-19 | 90.6(Yes) |
| Professional life affected | 93.8(Yes) |
| Personal life affected | 96.9 (Yes) |
| Stressed about transfer of infection to family members | 93.8 (Yes) |
| Positive attitude towards hand and respiratory hygiene | 75 (Yes) |
| Knowledge update | 53.1 (Daily) |
| Reliability of information source | 87.5% (Yes) |
| Preparedness of workplace for COVID-19 | 68.8 (To some extent) |
| Change on people's behavior towards respondent at this time of pandemic | 65.6 (No) |
| People's behavior towards respondent at this time of pandemic | 81.2 (Positive) |
| Ready to volunteer in a COVID-19 hospital | 46.9 (Yes) |
| Feel confident about country's preparedness to handle Corona pandemic | 90.6 (No) |
| Ready to volunteer for Corona vaccine trial | 68.8 (Yes) |
| Ready to take corona vaccine if available | 87.5 (Yes) |
| Feelsneed for COVID-19 prevention and treatment training | 87.5 (Yes) |

**Table 7: Response with highest percentage in practice section**

| Questions to assess practice | Response with Highest % |
|---|---|
| Type of mask used | 53.13(Both K95 and surgical mask) |
| Proper disposal of mask | 65.6(Yes) |
| Reason to reuse mask | 34.4(Mask is in short supply/can be reused after washing) |
| PPE use | 71.43(Only when managing suspected COVID-19 cases) |
| Availability of PPE at the workplace | 65.6(Yes) |
| Hand hygiene practice | 84.4(Yes) |
| Measures taken by workplace to prevent transmission of infection | 37.5(All the required precautions) |
| Practice of social distancing at work place | 78.1(Yes) |
| Disposal of medical waste | 53.1(As regular garbage) |
| Notification of suspected COVID-19 case | 59.4(Yes) |
| Protocol for triage and isolation of suspected COVID-19 cases | 46.9(No) |
| Self isolation if suffering with flu like mild symptoms | 87.5(Yes) |
| Received training on infection prevention related to COVID-19 | 84.4(No) |
| Refresher training on Infection prevention | 84.4(No) |
| Place to quarantine if exposed to COVID-19 patient | 81.3(At their own home) |
| Place to obtain treatment if infected with COVID-19 | 31.3(Private hospital in Kathmandu) |

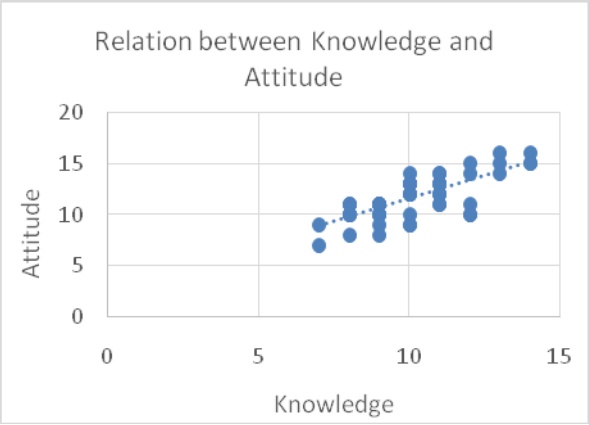


**Figure 1: Relationship between Knowledge and Attitude (Pearson's r value= .754, P value <.000)**

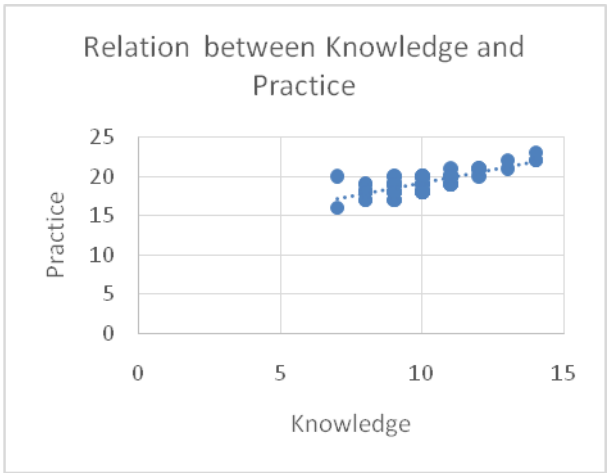


**Figure 2: Relationship between Knowledge and Practice (Pearson's r value= .791, P value <.000)**

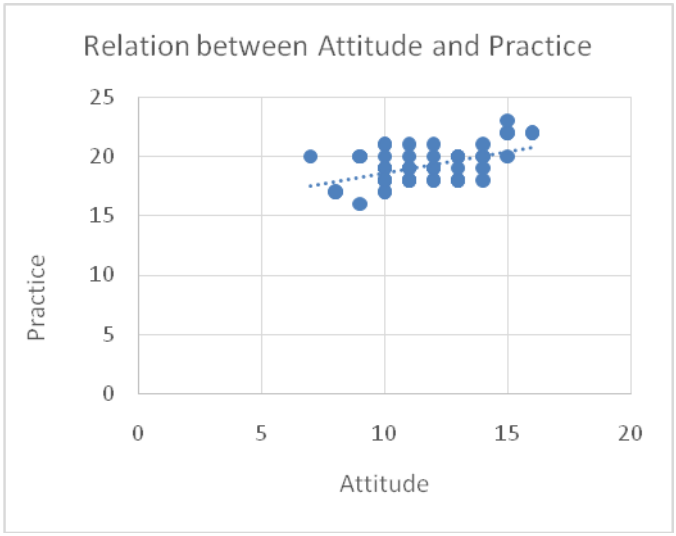


**Figure 3: Relationship between Attitude and Practice (Pearson's r value= .508, P value <.000)**

## DISCUSSION

The study was conducted to assess the knowledge, attitude and practice regarding COVID-19 among the doctors of Janakpur, Nepal with the aim of establishing a baseline data for future references and policy decisions.

Overall knowledge about the various aspects of COVID-19 among the doctors of Janakpur can be considered good among 34.38% and moderate or fair among 46.87% of the doctors. Correct answer to individual questions in the knowledge assessment section varied 21.9% to 95.31%. The upper range of the correct knowledge corresponds with that of a study conducted by Asraf et al., which showed 64.9 to 99.5% knowledge range among the persons with medical training [11].

Similarly, Zhou et al. in their study in Henan, China reported that the majority of the health care workers (89%) had sufficient knowledge and good practice towards COVID-19 [12]. The lower knowledge range of 21.9% among the doctors of Janakpur is due to the fact that the "name of virus" causing Corona virus disease (Severe acute respiratory syndrome corona virus 2(SARS-CoV-2)) was not known to the majority of the respondents. Majority of the participants (96.8%) used more than one information source which included social media, television and radio and talking with friends and relatives. Out of the total responders, 87.5% included official websites as source of their information. While social media was the source of information for 59.4% participants. Frequency of updating was 53.1% daily, 18.8% two times a week and 28.1% updated themselves occasionally.

Attitude is influenced by beliefs, feelings and action tendencies. A good positive attitude was noted among 40.62% of the doctors. Positive attitude was moderate among 37.5%.In the study we found that majority of the doctors felt their professional and personal life affected by the pandemic (93.8% and 96.9% respectively). Most of the participants (93.8%) were stressed about fear of transmitting corona virus disease to their family members whereas Zhou et al found in their study that around 85% of the surveyed HCWs were afraid of becoming infected at work [12].

In spite of the various reports in media about the negative attitude of general public towards health workers, 65.6% participants found no change in the behavior of their relatives, neighbors or house owners towards them. Only 18.6% felt that they were being treated negatively by the general people.

Multiple scientific articles have proved that frequent hand washing with soap and water, use of sanitizer, precautions during coughing and sneezing and wearing masks are effective measures against corona and other infectious diseases' spread [13]. We found that 25% respondent doctors were doubtful about effectiveness of such measures which is similar to the findings of Pessoa-Silva et al regarding attitude towards hand hygiene among health workers working in critically ill neonate care units [14]. However, Nair et al in their study conducted in Raichur, India found that only 12.9% medical students had a positive attitude towards hand hygiene [15].

Preparedness of a work place is essential for the safety of the general public as well as the heath workers while combating a highly infectious disease like COVID-19. In our study 68.8% doctors thought that their work place preparedness was adequate against Corona virus disease and 9.4% found the preparedness absent. The above mentioned data in our study raised doubt when we came across the fact that in practice 34.4% workplaces were not providing PPE to their health workers. Additionally, in the practice assessment it was found that only 37.5% work places were using correct precautionary measures to prevent the spread of disease transmission and 53.1% work places ware disposing medical waste as regular garbage. The difference between the perceived

preparedness and actual one might be due to personal bias as the questionnaire was a self-response type.

Majority (90.6%) of the doctors thought that the country is not prepared to handle the pandemic. Unfortunately, if asked to volunteer in a COVID-19 hospital, 53.1% were not willing to accept such offer. Only 68.8% agreed to volunteer for Corona vaccine trial and 87.5% were ready to take corona vaccine if available. Many doctors felt that they need training for COVID-19 prevention and treatment (87.5%).

Good practices go a long way in treatment and prevention of diseases, especially infectious diseases like COVID-19. In our survey 43.75% doctors were following good practices and 40.62% had a level of fair practices. In daily practice all the doctors were using masks to prevent infection. Both K95 and surgical mask were being used by 53.13% doctors. Mask was disposed by 65.6% doctors after 8 hours of use or after it was moist. Rests (34.4%) were reusing the mask either because mask was in short supply or they thought that some masks can be reused after washing.

At the places where PPE was available, 46.9% used PPE only when managing suspected COVID-19 patients whereas 12.5% doctors used PPE while examining all the patients. In spite of 90.6% knowing about "My 5 moments for hand hygiene" in patient care only 84.4% were practicing it day to day.

If a COVID-19 case was suspected, 59.4% workplaces were informing the concerned authority but 34.4% doctors were unaware that any such communication channel exists. There was a protocol for triage and isolation of suspected COVID-19 cases in 43.8% doctors' workplace whereas 46.9% doctors were working in a workplace without any such protocol.

When suffering with mild flu like symptoms 87.5% doctors were self isolating them.

The doctors showed little confidence in quarantine and treatment facilities of government. If exposed to COVID-19 patient, 81.3% doctors wanted to quarantine themselves at their own home, 15.6% preferred hotels offering quarantine facility and only 6.3% wanted to use government quarantine facility. If infected with COVID-19, 31.3% doctors wanted to obtain treatment in a private hospital in Kathmandu. However, 28.1% preferred private hospital in Janakpur and 18.8% were ready to obtain treatment at Janakpur government hospital. Government hospital in Kathmandu was preferred place of treatment for 25%.

In our study a significant positive correlation was seen between knowledge and attitude towards COVID-19 (r value=.754, p value<.000). Similarly, a strong positive correlation was found between knowledge and practice (r value=.791, p value<.00001). However, a moderate positive correlation was noted between attitude and practice (r value= .508, p value<.000).

## CONCLUSION

It can be concluded from this research that the doctors of Janakpur, Nepal have moderate to good knowledge on various aspects of COVID-19. Majority also showed a positive attitude and good practice. Impact of social media was clearly evident in getting information regarding COVID-19. This fact can be used to provide correct knowledge, attitude and practice among the doctors via such platforms. A significant positive correlation was found between knowledge, attitude and practice. Training regarding COVID-19 and infection prevention will strengthen this correlation and prepare the doctors to deal better with the serious global COVID-19 pandemic.

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