Knowledge, Attitude and Practice towards COVID-19 among Private School Teachers of Chitwan, Nepal

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ABSTRACT

Background
The coronavirus disease (COVID-19) pandemic has brought life to a standstill across the world, with nearly 178 countries reporting school closures. As the schools have started reopening slowly, precautions are utmost necessary to prevent the potential spread of COVID-19 in school and community settings.

Objective
To assess knowledge, attitude and practice towards COVID-19 among private school teachers.

Method
A web based cross-sectional analytical study design was undertaken. Currently working private school teachers of Chitwan District were included as a unit of analysis. The snowball sampling technique was employed to identify the eligible participant. Collected data was entered in SPSS version 20 and analyzed using the Chi-square test, Pearson correlation, and binary logistic regression.

Result
Of 344 participants, the majority were male (52.9%), most of the participants were from age group 26-30 years (38.4%). Regarding knowledge, attitude and practice, 57% had good knowledge, 53.2% had favorable attitude and 51.7% had good practice towards COVID-19. Logistic regression analysis demonstrated gender (OR 0.475, 95% CI: 0.256-0.818) and COVID-19 training (OR 25.687, 95% CI 5.354-123.226) were significant with good knowledge.

Conclusion
Knowledge about COVID-19 among private schools teacher was good, attitudes have been mostly favorable, and the practices were mostly adequate. However, good knowledge is not the only factor for better attitude and good practices. It is necessary to implement massive education campaigns, trainings and information via school authorities and health authorities by developing and adopting appropriate guidelines on COVID-19.

KEY WORDS
Attitude-practice, COVID-19, Knowledge, School teacher
INTRODUCTION
Coronavirus disease 2019 (COVID-19) is an infectious disease caused by a novel coronavirus which was first identified in Wuhan City, China. The virus has capacity of human to human transmission through droplets, aerosol, contact etc having incubation period of 14 days and even longer. The main three symptoms of COVID-19 are sudden onset of fever, dry cough, and tiredness. Till 30th August 2020 there were over 2,48,54,140 reported positive cases with 8,38,924 deaths globally and 40,527 confirmed cases 239 deaths in Nepal. Estimated that 107 countries had implemented national school closures related to COVID-19, affecting 862 million children and young people, roughly half the global student population. School closures are based on evidence and assumptions from influenza outbreaks that they reduce social contacts between students and therefore interrupt the transmission. Precautions are necessary to prevent the potential spread of COVID-19 in school settings. In Nepal all schools have been closed since 19 March, forcing over 8 million learners to stay home. In this extraordinary period, the Nepal Teachers’ Association (NTA) is cautiously and actively supporting teaching and learning activities, as well as efforts to protect the health and safety of students and educators. Nowadays, slowly schools are started to reopen, it is important to examine the knowledge, attitude and practice (KAP) towards COVID-19 among teachers to see to what extent there may be room for improvement in the light of current knowledge. Hence, this study aimed to assess the KAP towards COVID-19 among private school teachers.

METHODS
A web based cross-sectional analytical study design was undertaken. Currently working private school teachers of Chitwan District were included in the study as a unit of analysis. Teachers from government school, preschool, plus two and above were excluded from the study. Snowball sampling technique was employed to identify eligible participant. The researchers prepared a list of private schools of Chitwan and their contact numbers. This started with the researchers approaching the teachers in their network. Currently, most of the private schools are running classes via online platforms and have created their own private groups on Viber, WhatsApp, Messenger, or email for communication. They were invited to participate in this survey and further requested to pass the survey participant to the eligible participant(s) in their network. Minimum required sample size was calculated to be 344.

An online administered of questionnaire was preferred due to the pandemic situation. Data collection tool was designed and executed using Google Forms (https://docs.google.com/forms/). Questionnaire was shared on Whatsapp, Messenger, Viber, email, etc. Pretesting of the questionnaire was done in 10% population in similar setting. An online administered of questionnaire was preferred (2020 Aug. 21 to 2020 Aug. 30) following ethical approval from Shree Medical and Technical College (SMTC-IRC: 20200731-6). The questionnaire was shared on Whatsapp, Messenger, Viber, email, etc of the teachers. The online form consisted background information of the study and informed consent at the beginning. The survey questionnaire was developed by the researcher based on extensive literature review, consultation with subject expert, guideline and protocol of CDC, WHO, UNESCO, UNICEF and Ministry of Health and Population, Nepal.

The questionnaire consisted 4 parts, part I was related to socio-demographic variables included age, gender, marital status, ethnicity, religion, education, teaching experience, COVID-19 training and sources of information. Part II was related to COVID-19 knowledge which had 24 questions: 1. Meaning (K1), 2. Causes (K2) 3. Mode of transmission (K3-K10) 4. Clinical presentations (K11-K19), 5. Regarding prevention of COVID-19 (K20-K24). These questions were answered on a Yes/No basis with an additional “I don’t know” option. A correct answer was assigned 1 point and an incorrect/unknown answer was assigned 0 points. The total knowledge score ranged from 0 to 24, with a higher score denoting a better knowledge of COVID-19. The Cronbach’s alpha coefficient of the knowledge questionnaire was 0.837, indicating acceptable internal consistency. Part III was related to attitudes towards COVID-19 which were measured by 5 point likert scale. It contain total 8 items, the total score was 40, cutoff mean score was 28.86, above indicate a favorable attitude and a score equal and below 28.86 indicate an unfavorable attitude. Positive statements were scored from 5 = strongly agree to 1 = strongly disagree, whereas negative statements were scored from 1 = strongly agree to 5 = strongly disagree. Part IV was related to practice, was composed of 10 questions (P1-P10): These questions were answered on a Yes/No basis with an additional “I don’t know” option. A correct answer was assigned 1 point and an incorrect/unknown answer was assigned 0 points. Total score of practiced range 0-10, with a higher score denoting a better practice COVID-19.

Submitted questionnaires were extracted from Google Forms and exported to a Microsoft Excel 2016 for cleaning and coding and later imported to Statistical Package for Social Sciences (version-20.0) for statistical analysis. The data were summarized in terms of frequency, percentage, mean and standard deviations (SD). Chi-square tests were applied to determine the association of knowledge (good vs poor), attitude (favorable vs unfavorable), and practice (good vs poor) with socio-demographic characteristics. Overall KAP scores were dichotomized so to find possible determinants of good KAP, a binary logistic regression analysis was applied with 95% CI and p-value less than 0.05 was considered statistically significant. Pearson correlation was applied to determine the correlation between KAP scores.
Table 1. Socio-demographic Variables of the Respondent (n=344)

| Characteristics            | Frequency (%) |
|----------------------------|---------------|
| **Age in group (years)**   |               |
| ≤ 20-25                    | 67 (19.5)     |
| 26-30                      | 132 (38.4)    |
| 31-35                      | 41 (11.9)     |
| 36-40                      | 21 (6.1)      |
| 41-45                      | 45 (13.1)     |
| 46-50                      | 25 (7.2)      |
| 51-55                      | 13 (3.8)      |
| **Mean age 30.66 years**   |               |
|   Min:20, max 55 years     |               |
| **Gender**                 |               |
| Male                       | 182 (52.9)    |
| Female                     | 162 (47.1)    |
| **Marital Status**         |               |
| Unmarried                  | 118 (34.3)    |
| Married                    | 226 (65.7)    |
| **Ethnicity**              |               |
| Dalit                      | 8 (2.3)       |
| Janajati                   | 63 (18.3)     |
| Madhesi                    | 4 (1.2)       |
| Muslim                     | 3 (0.9)       |
| Brahmin/Chettri            | 244 (70.9)    |
| Others                     | 22 (6.4)      |
| **Religion**               |               |
| Hinduism                   | 290 (84.3)    |
| Buddhism                   | 33 (9.6)      |
| Christianity               | 16 (4.6)      |
| Islam                      | 3 (0.9)       |
| Others                     | 2 (0.6)       |
| **Education**              |               |
| Secondary                  | 57 (16.6)     |
| Bachelor                   | 136 (39.5)    |
| Master and above           | 151 (43.9)    |
| **Experience in years**    |               |
| < 1-5                      | 95 (27.6)     |
| 6-10                       | 147 (42.7)    |
| 11-15                      | 28 (8.2)      |
| 16-20                      | 49 (14.2)     |
| > 20                       | 25 (7.3)      |
| **COVID-19 Training**      |               |
| Yes                        | 25 (7.3)      |
| No                         | 319 (92.7)    |
| **Sources of information** |               |
| Newspaper                  | 133 (38.9)    |
| Internet/ social media     | 322 (94.2)    |
| Television                 | 159 (46.5)    |
| Relatives and friend       | 109 (31.9)    |
| Radio/ FM                  | 104 (30.4)    |
| Health worker              | 77 (22.5)     |
| Community worker           | 49 (14.3)     |

Table 2. Correct Response Towards Knowledge of COVID-19 (n=344)

| Awareness Questions        | Correct Response | Frequency (%) |
|----------------------------|------------------|---------------|
| COVID-19 is a highly infectious disease. | Yes              | 339 (98.5)    |
| Causes of COVID-19          | Virus            | 329 (95.6)    |
| Modes of transmission of COVID-19* | Air             | 344 (100)     |
|                           | Eating ‘animal meat | 235 (68.3)   |
|                           | Eating infected fruits and vegetable | 201 (58.4)   |
|                           | Saliva of an infected person | 256 (74.4)   |
|                           | Urine and faeces of an infected person | 129 (37.5)   |
|                           | Breast milk of an infected person | 249 (72.4)   |
|                           | Shaking hands with an infected person | 289 (84.0)   |
|                           | Kissing and hugging | 249 (72.4)   |
| Signs and symptoms of COVID-19 |                  |               |
| Fever                     | 330 (95.9)       |
| Cough                     | 281 (81.7)       |
| Weakness                  | 233 (67.7)       |
| Vomiting                  | 140 (40.7)       |
| Diarrhea                  | 100 (29.1)       |
| Difficulty breathing (shortness of breathing) | 270 (78.5)   |
| Severe headache           | 206 (59.9)       |
| Muscle pain               | 163 (47.4)       |
| Sore throat               | 237 (68.9)       |
| Knowledge on prevention of COVID-19 |                  |               |
| By wearing a well-fitting face mask. | 278 (80.8)   |
| By wearing clothes or general medical masks by ordinary people. | 158 (45.9) |
| By Regular washing hands with soap and water, and also using disinfectants. | 299 (86.9) |
| By stay at home and maintaining social distance | 306 (89.0) |
| By Maintaining a distance of at least 1 meter between everyone. | 262 (76.2) |

RESULTS

Table 1 show a total of 344 participants, majority (38.4%) were in the age group of 26-30 years and lowest (3.8%) were in the age group of above 51-55 years. The mean age of participants was 30.66 years. Concerning gender, most of the participants 52.9% were male. There were 65.7% married participants. Regarding, ethnicity 70.9% belongs to
Brahmin/Chhetri. There were majority participants 84.3% followed Hinduism. Out of 344 participants 43.9% had completed master and above degree education. Majority 42.7% participants had 6-10 years working experience. Most of the participants 92.7% had not received any training regarding COVID-19. The source of information for most of the participants (94.2%) was internet.

In this study, most of participants 57% had good knowledge level with Mean Score ± SD 16.61 ± 4.59. Likewise, 53.2% participants had favorable attitude with mean score 28.86 ± 4.96. Similarly, 51.7% participants had good practice with 8.27 ± 1.45 mean score towards COVID-19. Table 2, show that 98.5% of the participants knew COVID-19 is a highly infectious disease. Most of the participants 95.6% knew the virus is a cause of COVID-19. Regarding transmission mode 100% gave correct response on air likewise shaking hands with an infected person 84%, saliva of an infected person 74.4%, kissing and hugging 72.4%, urine and faeces of an infected person 37.5% gave correct response. Majority of the participants gave correct response on sign and symptoms of COVID-19 like fever 95.9%, cough 81.7%, difficulty in breathing 78.5% sore throat 68.9% weakness 67.7%, severe headache 59.9%, muscle pain 47.4%, vomiting 40.7%, diarrhea 29.1%. Most of the participants gave correct response on preventive measures of COVID-19, by stay at home and maintaining social distance 89%, by regular washing hands with soap and water, and also using disinfectants 86.9%, by wearing a well-fitting face mask 80.8%, by maintaining a distance of at least 1 meter between everyone 76.2%, by wearing clothes or general medical masks by ordinary people 45.9%.

Table 3 shows that knowledge was significantly associated with gender (p=0.042), marital status (p=0.044), COVID-19 training (p<0.001), sources of COVID-19 information internet (p=0.001), television (p <0.001), relatives and friend (p=0.003), FM and radio (p<0.001), health worker (p=0.034) and community worker (p=0.027). Attitude towards COVID-19 was significantly associated with ethnicity (p=0.008), education (p=0.009) and sources of information internet (p=0.003). Practice was significantly associated with gender (p=0.008), religion (p<0.001), education (p=0.015), teaching experience (p=0.008), sources of information from FM/radio (p=0.038) and community worker (p=0.003).

Table 4 shows that gender male 0.457 (95% CI: 0.256-0.818), COVID Training 25.687 (95% CI: 5.354-123.226), COVID-19 information from newspaper 0.377(95% CI: 0.185-0.766), internet 17.447 (95% CI: 2.739-111.130), television 3.052 (95% CI:1.600-5.823), radio/FM 2.507(95% CI: 1.168-5.381) and community worker 3.79 (95% CI: 1.316-10.923) have associated significantly with good knowledge. Regarding attitude, Brahmin/Chettri 0.375 (95% CI: 0.202-0.694), higher education 0.240 (95% CI: 0.111-0.520), information from Internet 5.457 (95% CI: 1.730-17.207) have associated significantly with good attitude. Concerning practice, gender male 1.848 (95% CI: 1.086-3.146), Hinduism 0.389 (95% CI: 0.170-.891), higher education bachelor 2.543 (95% CI: 1.223-5.288), master and above 1.916 (95% CI: 1.074-3.418), teaching experience 6-10 years 3.278 (95% CI: 1.145-9.379), sources of information from internet 4.473 (95% CI: 1.371-14.596), radio/FM 0.430 (95% CI: 0.215-0.860), community worker 2.619 (95% CI: 1.124-6.098) have associated significantly with good practice.

Pearson correlation tests revealed a statistically significant positive correlation between knowledge-practice (r=123, p < 0.02) and practice attitude (r=117, p=0.03) and negative correlation between knowledge attitude (r = -036, p > 0.05).

**DISCUSSION**

Several studies have been conducted on COVID-19 knowledge among the general population and healthcare workers but no existing literature on the same topic were found after extensive literature search by using different combination of keywords. To our best knowledge, this is the first study that has been conducted with the purposes to assess the level of knowledge, attitude, and practice towards the COVID-19 among private schools teachers in Chitwan district Nepal.

In this study, some socio-demographic factors that are associated with good knowledge, attitude, and practices towards COVID-19 among school teachers found that most of the participants have good knowledge attitude and practice towards COVID-19. There were significant associations between some socio demographic factors like age, gender, marital status, educational level. These findings are supported by the study conducted in Nepal, China, Bangladesh, Tanzania and India.

In the present study, it is revealed that 57% of the participants have good knowledge towards COVID-19. However, this score is much lower than that reported by (68.4%) Vietnam, (80.64%) India, (84.25%) Nepal, (84.4%) Tanzania and (90%) China. This is possibly because these studies assessed COVID-19 symptoms, mode of transmission using one direct question rather than asking the participants to choose from multiple responses. Also, the study participants were health professionals majorly. In this study, Virus as a cause of COVID-19 was the question with the highest correct answers (95.6%), this finding is supported by study conducted in (95.4%) Birgunj, Nepal.

More than 80% of the participants gave correct responses on major three symptoms of COVID-19 like Fever (95.9%), Cough (81.7%), and Difficulty in breathing (78.5%) these findings were supported by the study done in various countries, like in Iran. Major symptoms found difficulty in breathing (93.3%), ‘fever’ (90.9%) and ‘cough’ (83.2%), similar type findings showed by study done in China and India too. This is possible that people are highly aware of Coronavirus due to information in the mass media, including radio, television, social media, friend’s relatives and official authorities. Regarding mode of transmission of
Table 3. Association Between KAP Level Towards COVID-19 and Socio-demographic Variables (n=344)

| Variables             | Level of Knowledge | Level of Attitude | Level of Practice |
|-----------------------|--------------------|-------------------|-------------------|
|                       | Good (%) | Poor (%) | p-value | Favorable (%) | Unfavorable (%) | p-value | Good (%) | Poor (%) | p-value |
| Age in group          |          |          |         |              |                |         |          |          |         |
| 20-30 years           | 109(54.8)| 90(45.2) | 0.334   | 100(50.3)    | 99(49.7)       | 0.199   | 104(52.3)| 95(47.7)| 0.822   |
| 31-55 years           | 87(60)   | 58(40)   |          | 83(57.2)     | 62(42.8)       | 0.859   | 74(51)   | 71(49)  | 0.659   |
| Gender                |          |          |         |              |                |         |          |          |         |
| Male                  | 113(62.1)| 69(39.9) | 0.334   | 96(52.7)     | 86(47.3)       | 0.199   | 82(45.1)| 100(60.2)| 0.008   |
| Female                | 83(51.2)| 79(48.8) | 0.042   | 87(53.7)     | 75(46.3)       | 0.895   | 96(59.3)| 66(40.7)| 0.008   |
| Marital status        |          |          |         |              |                |         |          |          |         |
| Unmarried             | 76(64.4)| 42(35.6) |          | 68(57.6)     | 50(42.4)       | 0.044   | 115(50.9)| 111(49.1)| 0.234   |
| Married               | 120(53.1)| 106(46.9)|          | 115(50.9)    | 111(49.1)      | 0.324   | 115(50.9)| 111(49.1)| 0.659   |
| Religion              |          |          |         |              |                |         |          |          |         |
| Hinduism              | 170(58.6)| 120(41.4)|          | 158(54.5)    | 132(45.5)      | 0.044   | 162(55.9)| 128(44.1)| <0.001  |
| Other than Hindu      | 26(48.1)| 28(51.9) | 0.154   | 25(46.3)     | 29(53.7)       | 0.268   | 16(29.6)| 38(70.4)| <0.001  |
| Ethnicity             |          |          |         |              |                |         |          |          |         |
| Brahmin Chettri       | 144(58.5)| 102(41.5)|          | 142(57.7)    | 96(42.9)       | 0.008   | 139(56.5)| 107(43.5)| 0.005   |
| Other than Brahmin Chettri | 52(53.1)| 46(46.9) | 0.355   | 41(41.8)     | 57(58.2)       | 0.008   | 39(39.8)| 59(60.2)| 0.005   |
| Education             |          |          |         |              |                |         |          |          |         |
| Secondary             | 26(45.6)| 31(54.4) |          | 40(70.2)     | 17(29.8)       | 0.140   | 21(36.8)| 36(63.2)|         |
| Bachelor              | 83(61)  | 53(39)   |          | 73(53.7)     | 63(46.3)       | 0.009   | 68(50)  | 68(50)  |         |
| Master and above      | 87(57.6)| 64(42.4) |          | 70(46.4)     | 81(53.6)       | 0.015   | 89(58.9)| 62(41.1)|         |
| COVID Training        |          |          |         |              |                |         |          |          |         |
| Yes                   | 3(12)   | 22(88)   |          | 11(44)       | 14(56)         | 0.339   | 17(68)  | 8(32)   | 0.091   |
| No                    | 193(59.1)| 126(40.9)| <0.001  | 172(53.9)    | 147(46.1)      | 0.339   | 161(50.5)| 158(49.5)|         |
| Teaching Experience   |          |          |         |              |                |         |          |          |         |
| < 1-5 years           | 54(56.8)| 41(43.2) |          | 46(48.4)     | 49(51.6)       | 0.311   | 39(41.1)| 56(58.9)|         |
| 6-10 years            | 75(51)  | 72(49)   |          | 81(55.1)     | 66(44.9)       | 0.009   | 73(49.7)| 74(50.3)|         |
| 11-15 years           | 23(82.1)| 5(17.9)  | 0.031   | 21(75)       | 7(25)          | 0.099   | 15(53.6)| 13(46.4)| 0.008   |
| 16-20 years           | 27(55.1)| 22(44.9) |          | 22(44.9)     | 27(53.1)       | 0.009   | 35(71.4)| 14(28.6)|         |
| > 20 years            | 17(68)  | 8(32)    |          | 13(52)       | 12(48)         | 0.117   | 16(64)  | 9(36)   |         |
| Sources of information|          |          |         |              |                |         |          |          |         |
| Newspaper             | 81(60.9)| 52(39.1) | 0.243   | 71(53.4)     | 62(46.6)       | 0.956   | 69(51.9)| 64(48.1)| 0.968   |
| Internet              | 194(60.2)| 128(39.8)| <0.001  | 178(55.3)    | 144(44.7)      | 0.003   | 170(52.8)| 152(47.2)| 0.136   |
| Television            | 111(69.8)| 48(30.2) | <0.001  | 83(52.2)     | 76(47.8)       | 0.731   | 83(52.2)| 76(47.8)| 0.875   |
| Relatives and friend  | 75(68.8)| 34(31.2) | 0.003   | 55(50.5)     | 54(49.5)       | 0.428   | 49(45)  | 60(55)  | 0.860   |
| Radio/FM              | 80(76.9)| 24(23.1) | <0.001  | 58(55.8)     | 46(44.2)       | 0.529   | 45(43.3)| 59(56.7)| 0.038   |
| Health worker         | 52(67.5)| 25(32.5) | 0.034   | 40(51.9)     | 37(48.1)       | 0.803   | 44(57.1)| 33(42.9)| 0.282   |
| Community worker      | 35(71.4)| 14(28.6) | 0.027   | 26(53.1)     | 23(46.9)       | 0.984   | 35(71.4)| 14(28.6)| 0.003   |

*percentage *multiple response p value of less than 0.05 considered significant.

Moreover, the results of present study shows, 53.2% of people have good attitude which is lower than other studies done in (97.33%) India and (80%) Malaysia. These studies used only 2 questions in three point likert scale but in our study we used 5 point likert scale with more attitude items related to schools and students. Most of the participants (31.7%) strongly agreed that children and young adults...
Table 4. Logistic regression analysis for Socio-demographic factors associated with KAP towards COVID-19 (n=344)

| Variables                              | Level of Knowledge | Level of Attitude | Level of Practice |
|----------------------------------------|--------------------|-------------------|-------------------|
|                                        | Good (COR 95% CI)  | Poor p-value      | Favorable (COR 95% CI) p-value | Unfavorable (COR 95% CI) p-value | Good (COR 95% CI) p-value | Poor (COR 95% CI) p-value |
| Gender (Male vs female*)               | 0.457(0.256-0.818) | 0.008             | 1.312(0.785-2.193) 0.300 | 1.848(1.086-3.146) 0.024 |
| Marital status (unmarried*vs married)  | 0.699(0.401-1.218) | 0.206             | 0.784(0.476-1.291) 0.339 | 1.163(0.689-1.964) 0.571 |
| Religion (Hindusim vs other* religion) | 1.247(0.531-2.932) | 0.613             | 1.138(0.522-2.478) 0.745 | 0.389(0.170-0.891) 0.026 |
| Ethnicity (BrahminChettri vs Others*)  | 0.677(0.347-1.319) | 0.252             | 0.375(0.202-0.694) 0.002 | 0.765(0.415-1.410) 0.390 |
| Education (bachelor vs Secondary*)     | 1.703(0.785-3.696) | 0.178             | 0.240(0.111-0.520) <0.001 | 2.543(1.223-5.288) 0.012 |
| (Master vs Bachelor*)                  | 1.679(0.901-2.312) | 0.103             | 0.637(0.371-1.093) 0.101 | 1.916(1.074-3.418) 0.028 |
| COVID Training (Yes vs No*)             | 25.687(5.354-123.226) <0.001 | 1.076(0.388-2.985) 0.888 | 0.551(0.167-1.819) 0.328 |
| Teaching Experience >1-5* vs 6-10Years | 2.549(0.847-7.669) | 0.096             | 0.973(0.374-2.531) 0.955 | 3.278(1.145-9.379) 0.027 |
| 6-10 *years -11-15 years               | 2.650(0.895-7.844) | 0.078             | 0.903(0.356-2.288) 0.829 | 1.583(0.568-4.414) 0.380 |
| 11-15 *years vs 15-20 years            | 0.294(0.058-1.496) | 0.140             | 0.319(0.083-1.223) 0.096 | 0.930(0.247-3.499) 0.914 |
| >15-20* years vs >20Years              | 2.137(0.585-7.804) | 0.251             | 1.074(0.355-3.244) 0.900 | 0.718(0.213-2.415) 0.592 |
| Sources of information Newspaper (yes vs no*) | 0.377(0.185-0.766) | 0.007             | 1.299(0.723-2.332) 0.382 | 1.128(0.602-2.114) 0.706 |
| Internet(yes vs no*)                   | 17.447(2.739111.130) 0.002 | 5.457(1.730-17.207) 0.004 | 4.473(1.371-14.596) 0.013 |
| Television(yes vs no*)                 | 3.052(1.600-5.823) | 0.001             | 0.905(0.509-1.608) 0.733 | 1.341(0.726-2.480) 0.349 |
| Relative (yes vs no*)                  | 1.247(0.608-2.557) | 0.547             | 0.785(0.429-1.436) 0.432 | 0.671(0.348-1.295) 0.234 |
| Radio/FM(yes vs no*)                   | 2.507(1.168-5.381) | 0.018             | 1.242(0.649-2.378) 0.513 | 0.430(0.215-0.860) 0.017 |
| Health worker(yes vs no*)              | 1.307(0.593-2.882) | 0.507             | 0.966(0.515-0.515) 0.915 | 1.340(0.675-2.662) 0.403 |
| Community worker (yes vs no*)          | 3.791(1.316-10.923) | 0.014             | 0.997(0.460-2.160) 0.993 | 2.619(1.124-6.098) 0.026 |

Reference group* OR: Odds Ratio; CI: Confidence Interval p value of less than 0.05 is considered significant.

Table 5. Correlation between KAP Scores

| Variables               | Correlation coefficient (r) | p-value |
|-------------------------|----------------------------|---------|
| Knowledge- practice     | 0.123*                     | 0.02    |
| Knowledge- attitude     | -0.036*                    | >0.05   |
| Practice-attitude       | 0.117*                     | 0.03    |

*Correlation is significant at the 0.05 level (2-tailed)

The findings of present study suggest that (51.7%) half of the participants have good knowledge. However, their attitude and practices towards COVID-19 were not as impressive which is supported by study in (54.87%) Bangladesh. In the current study, 98.5% practicing proper hand hygiene in (92.5%) Iran. Most participants (94.8%) reported taking precautions such as avoiding crowded places this finding is supported by study in (96.4%) China, Nigeria and (93.1%) Nepal. In this study only 79% wear face mask when leaving the home when going out in (98.0%) China. In this study, most of the participants (67.4%) covered their nose and mouth with bent elbow or a tissue when they cough or sneeze, avoid touching the eyes and nose with hands as recommended by WHO. In this study some participants (35.5%) had taken vitamin c and other immune booster to prevent themselves from COVID-19 infection this finding is supported by study conducted in India. Majority of teachers (79.1%) had taken their classes through online to promote social distancing as said by UNESCO. This study was conducted in one district of Nepal. The findings may not be generalized in other districts. Since the study was conducted online and those who don't have an internet facility, could not get a chance to enroll in the study.
CONCLUSION

As a conclusion, it is possible to indicate that the knowledge about COVID-19 among the teachers was good, attitudes have been mostly favorable, and the practices are mostly adequate. However, the good knowledge is not the only factor for better attitude and good practice. It is necessary to implement massive education campaigns, trainings and information via school authorities or health authorities who can be helpful in reducing misconceptions and the stigma around recovered patients in the society. Public and private school authorities should emphasis to public and students’ health measures by developing and adopting appropriate guidelines.

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REFERENCES

1. Novel Coronavirus, Wuhan, China. CDC. Available at https://www.cdc.gov/coronavirus/2019-ncov/about/index.html. (Accessed: July 27, 2020)

2. Zhu H, Wei L, and Niu P. The novel coronavirus outbreak in Wuhan, China. Global Health Research Policy. 2020;5(1). https://doi.org/10.1186/s41256-020-00135-6

3. Wölfel R, Corman VM, Guggemos W, Seilmaier M, Zange S, Müller MA, et al. Virological assessment of hospitalized patients with COVID-19. Nature. 2020 May;581(7809):465-9. https://doi.org/10.1038/s41586-020-2196

4. World Health Organization (WHO). Coronavirus disease 2019 (COVID-19) Situation Report-Geneva, Switzerland. 2020. https://www.wto.int/emergencies/diseases/novel-coronavirus-2019/situation-reports (accessed 22 July 2020).

5. On March 18, 2020, the UN Educational, Scientific and Cultural Organization briefing on COVID-19. 2020. https://www.who.int/dg/speeches/detail/who-director-general-s-opening-. (Accessed 23 July 2020).

6. Jackson C, Vynnycky E, Mangtani P. The relationship between school holidays and transmission of influenza in England and Wales. American journal of epidemiology. 2016 Nov 1;184(9):644-51. https://doi.org/10.1093/aje/kww083

7. Key Messages and Actions for COVID-19 Prevention and Control in Schools March 2020 [UNICEF EAPRO, (WHO) and Gwedmoler Eamer (IFRC) for their close collaboration. https://www.who.int/docs/default-source/coronaviruse/key-messages-and-actions-for-covid-19-prevention-and-control-in-schools-march-2020.pdf (accessed 5 August 2020).

8. Nepal: Education unionists mobilise during COVID-19 lockdownText by: Education International Published: 11.05.2020. https://www.ei-ie.org/en/detail/16779/nepal-education-unionists-mobilise-during-covid-19-lockdown (accessed 5 August 2020).

9. Paudel S, Shrestha P, Karmacharya I, Pathak O. Knowledge, attitude, and practices (KAP) towards COVID-19 among Nepalese residents during the COVID-19 outbreak: An online cross-sectional study. DOI: https://doi.org/10.21203/rs.3.rs-31044/v

10. Zhong BI, Luo W, Li HM, Zhang QQ, Liu XG, Li WT, et al. Knowledge, attitudes, and practices towards COVID-19 among Chinese residents during the rapid rise period of the COVID-19 outbreak: a quick online cross-sectional survey. International journal of biological sciences. 2020;16(10):1745. doi: 10.7150/ijbs.45221

11. Haque T, Hossain KM, Bhuiyan MM, Anannya S, Chowdhury SH, Islam MR, et al. Knowledge, attitude and practices (KAP) towards COVID-19 and assessment of risks of infection by SARS-CoV-2 among the Bangladeshi population: An online cross sectional survey. DOI: 10.21203/rs.3.rs-24562/v1

12. Byanaku A, Ibrahim M. Knowledge, attitudes, and practices (KAP) towards COVID-19: A quick online cross-sectional survey among Tanzanian residents. medRxiv. 2020 Jan doi: https://doi.org/10.1101/2020.04.26.20080820

13. Tomar BS, Singh P, Nathiya D, Suman S, Raj P, Tripathi S, et al. Indian communitys knowledge, attitude and practice towards COVID-19. medRxiv. 2020 Jan doi: https://doi.org/10.1101/2020.05.03.20092122

14. Huynh G, Nguyen MQ, Tran TT, Nguyen VT, Nguyen TV, Do TH, et al. Knowledge, attitude, and Practices Regarding COVID-19 Among Chronic Illness Patients at Outpatient Departments in Ho Chi Minh City, Vietnam. Risk Management and Healthcare Policy. 2020;13:1571.doi: 10.2147/RMHP.S268876

15. 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

16. Kakemam E, Ghoddoosi-Nejad D, Chegini Z, Momeni K, Salehinia H, Hassanipour S, et al. Knowledge, attitudes, and practices among the general population during COVID-19 outbreak in Iran: A national cross-sectional survey. medRxiv. 2020 Jan 1. doi: https://doi.org/10.101

10.2020.06.10.20127258

17. Azlan AA, Hamzah MR, Sern TJ, Ayub SH, Mohamad E. Public knowledge, attitudes and practices towards COVID-19: A cross-sectional study in Malaysia. Plos one. 2020 May 21;15(5):e0233668. doi:https://doi.org/10.1101/2020.04.29.20085563

18. United Nations Educational, Scientific and Cultural Organization, Framework for reopening schools April, 2020 UNESCOCOVID-19 Education Response Education Sectorissues Note n° 7.1 – April 2020(accessed August 2)

19. Edet CK, Wegbom AI, Kiri VA. Knowledge, Attitude and Practice of Clients towards COVID-19 at Primary Healthcare Facilities in Rivers State, Nigeria. DOI: https://doi.org/10.21203/rs.3.rs-40966/v1

20. UNICEF, WHO, IFRC 2020. Key Messages and Actions for COVID-19 Prevention and Control in Schools https://www.who.int/docs/default-source/coronaviruse/key-messages-and-actions-for-covid-19-prevention-and-control-in-schools-march-2020.pdf

21. Ministry of Health and Population, Nepal. (Accessed August 4,2020) https://mohp.gov.np/home/