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Knowledge and Practice on Covid-19 among Rural Schools' Teachers and Students of Dhankuta District, Nepal

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Abstract

A novel corona virus (nCoV) was recognized on seven January 2020 and was temporarily named "2019-nCoV". It was subsequently named the "Covid-19 virus globally. The objective of the study is to assess the knowledge and the preventive practice on Covid-19 among teachers and students of Mahalaxmi municipality in Dhankuta. Descriptive analytical cross-sectional design was used. A census method was used to choose the respondents. A semi- structured questionnaire was used to collect the data among 387 respondents. Frequency, percentage, mean, median and standard deviation were used to assess the knowledge and preventive practice on Covid-19 with teachers and students.. Inferential analysis i.e. multivariate logistic regression was used to find the relationship between dependent and selected demographic variables. Half (50.6%) of the respondents had good level of knowledge on Covid-19. Two-forth (50.4%) of respondents had poor practice on Covid-19 and less than two-forth (49.6%) of respondents had good practice. Multivariate analysis shows that there is association among levels of practice with ethnicity (p=0.007; aOR =0.576; CI=0.385-.862) and mother education (p=0.003; aOR =1.228; CI=1.072-.1.407).There is significant association between level of practice and ethnicity (p=0.004; aOR=1.810; CI=1.202- 2.726) and mother's education (p=0.002 ; aOR=0.804; CI=0.700-0.923). The study concluded that nearly half (49.4%) had still poor level of knowledge and more two-forth (50.4%) of the respondents had poor level of practice on Covid-19 so awareness programmed should be conducted to enhance the Knowledge and practice of teachers and students of Mahalaxmi municipality.

Keywords*: Covid-19, knowledge and practice, preventive measures, cross sectional*

Introduction

Corona viruses (CoV) are a large family of viruses that cause illness ranging from the common cold to very severe diseases. A novel corona virus (nCoV) was identified on 7 January 2020 and was temporarily named "2019-nCoV". It was then named the "Covid-19 virus (Baloran, 2020). Corona virus disease (Covid-19) is a contagious disease caused by a newly

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discovered corona virus. Almost all people rapid infected with the Covid-19 virus have experienced mild to moderate airway illness and have been recovered without requiring special treatment but older people and those with primary medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness (WHO, 2020). It is rapid transmitted and increased (globally the total cases 190,020,508 of Covid-19 & 4063453 deaths) as well as, Nepal total cases 664576 including death 9506 cases (Worldometer, July 16 2021).

 A study was conducted in semi-rural Georgia among 761 students result shows that adolescents know social distancing and numerous are participate in prevention behaviors, with hand washing (87%) and staying at home as to a great extent as possible (87%). The majority respondents reported increase in screen time outside of class (82%) (Campbell et al., 2021). The study revealed that less than half (48.3%) of participants had more accurate knowledge, 62.3% had more positive attitudes, and 55.1% had more frequent practices regarding COVID-19 prevention. Most of (96.7%) of the participants agreed 'COVID-19 is a dangerous disease', almost all (98.7%) participants wore a face mask in crowded places, 98.8% agreed to report a suspected case to health authorities, and 93.8% implemented washing hands with soap and water. aging, higher education, employment, monthly family income >30,000 BDT, and having more frequent prevention practices were the extra positive attitude factors (Ferdouset al., 2020). study conducted among secondary level students in an urban high-school at Bharatpur, Chitwan finding revealed that almost of (92.08%) of the students were knowledgeable whereas more than two-thirds (73.27%) of students knew about hand-washing for 20 seconds. half (50.50%) of participants knew information about the presence of the disease in Nepal whereas nearly two third (65.53%) of participants knew causative agent. more than half (57.43%) of the participants knew symptoms. more than three fourth (77.23%) of respondent reported using face mask whereas 79.21% of the respondents adopting washing hand measures as preventive strategy (Subedi et al., 2020).

The study was conducted to assess the knowledge and preventive practice on Covid-19 among teachers and student of five basic level school of Mahalaxmi Municipality in Dhankuta. These schools were Janata high school at Jitpur, ward number seven Ram high school at Murtidhunga wards number eight, Janata high school at Nigaale, ward number eight Sharada high school at Mulkharka wards number two and Ram high school at Ganesh Tar wards number nine of Mahalaxmi Municipality. Whole area of the municipality is 126.3 km (78.5 mi) and census of Nepal, the population of this municipality is 24,800 (Kathmandu, 2014). The municipality is divided into nine wards. The head quarter of the municipality is in Jitpur bazaar. The total 284 schools in Dhankuta district. There are 57 total schools in Mahalaxmi Municipality although only 17 schools are basic level (1-10 classes) and 10 secondary schools (1 -12 classes) in Mahalaxmi Municipality. Among them 1 to 10 classes are 17 schools and class one to twelve is 10 schools. Total teachers and students of among schools are 392 and 6556 respectively (Basnet, 2075).

The finding showed that of adolescents had inadequate knowledge on Covid-19, had negative attitudes in protective measures, and reported being engaged in dangerous practices related to infection spread. Tailored efforts are needed to improve the levels of knowledge, attitudes, and practices among adolescents. Raising awareness and promoting positive attitudes are vital to change adolescents' health practices (Dardas et al., 202). Likewise, an institution-

based cross-sectional study was conducted in Northwest Ethiopia among of 370 secondary school students finding revealed that only one-fourth (23.5 %,) of the students had a high-quality knowledge about Covid-19. Marital status, religion, father education, living arrangement and sources of information were significantly associated with knowledge about Covid-19. Being female and using health professionals as source of information improved the engagement in preventive behaviors (Dewau et al., 2021).

The aim of this study is to assess the knowledge and practice on COVID-19 among five schools teachers and students of Mahalaxmi Municipality of Dhankuta. A study on COVID was conducted in Dhankuta Multiple Campus, Dhankuta, Nepal. including 51 teachers. The finding indicate that the mean score of overall knowledge and practices are 6.90 and 6.4 respectively and 94.1 % faces academic challenges. Use of mask, sanitizer, and distance maintains, lockdown, and quarantine was some of the ways to prevent COVID-19. However, 70.6 % teachers were involved in online classes, e-library and continuing their academic activities (Parajuli & Linkha, 2020).

Methods and Materials

Study design

A quantitative analytical cross-sectional study was used to assess the knowledge and preventive practice on COVID-19 among teachers and students of Mahalaxmi municipality in Dhankuta.

Study Setting and Population

This study was conducted on five basic level schools of Mahalaxmi municipality in Dhankuta. These schools are Janata High School at Jitpur, Ram high school at Murtidhunga, Janata High School at Nigale, Sharada High School at Mulkharka wards number two and Ram High School at Ganeshtar of Mahalaxmi municipality. Mahalaxmi municipality is located in Dhankuta district in the eastern part of Nepal. Altogether there are 284 schools in Dhankuta district. Out them 57 schools are situated in Mahalaxmi municipality. Among them only 17 schools run secondary level's classes; whereas seven schools run from grade 1 to 10 and remain ten schools run from grade 1 to 12. Total number of teachers and students within these schools are 392 and 6,556 respectively (Basnet, 2075). The study population was all the teachers and students of the selected five schools of Mahalaxmi municipality, Dhankuta district. The age of study population was twenty to sixty years of teachers and 15 to 19 years of grade ten students. The self-administered questionnaire technique was used to collect primary data. The sampling unit of the study was both teachers and grade ten students of selected five schools of Mahalaxmi municipality of Dhankuta district.

Sampling technique and sample size

Simple random technique (lottery method) was used to select the five schools among the 17 school. These schools were Janata high school at Jitpur, Ram high school at Murtidhunga, Janata high school at Nigale; Sharada high school at Mulkharka and Ram high school at Ganeshtar of Mahalaxmi Municipality. Among the all grades all schools; grade-10 was selected using simple random sampling method (lottery method) but the sample was selected by census method. Total sample size was 387 teachers and students calculated by formula (n) = z^2pq/d^2

(including 10% non-response rate) 95% Confidence interval and 80% power taking the 65% prevalence by (Padmanaban et al., 2022). The sample size was 387 teachers and students.

Criteria for sample selection

First school was chosen by bottle neck rotation method which is neck pointed direction was selected first then done accordingly. But the sample was selected by census method. Inclusion criteria: all the ten class students and teachers of five rural schools of Mahalaxmi municipality. Other classes were excluded from the study.

Data collection tools

The questions were developed in English first then they were translated into Nepali and again received answers were translated from Nepali to English. Semi-structured self-administered questionnaire was developed for conducting data collection through self-administered techniques. Part I: it consisted of Socio-demographic information of community people Part II: It consisted of questionnaires related to Knowledge on COVID-19 among Teachers and class ten students of Mahalaxmi. Knowledge Score was calculated using 29 semi-structured questions (2 multiple choices, 27 multiple responses). In case of multiple responses, each correct response carried 1 mark. Overall questions carried 39 marks. Part III: It consisted of questionnaires related to preventive Practice on COVID-19 among Teachers and grade ten students of Mahalaxmi municipality. Practice score was calculated using 13 semi- structured questions (9 multiple choices, 4 multiple responses). In case of multiple responses, each correct response carried 1 mark. Overall questions carried 14 marks. The level of knowledge was categorized as obtained score gained from knowledge items by participants. The level knowledge was measured by participants who scored below the total score was poor and above median score was good level of knowledge. Likewise, the good knowledge was measured by participants who obtained above the mean score of the total score. The poor practice was measured by participants who scored below mean score of the total score. Likewise, the good practice was measured by participants who scored above the total score of median.

Pretesting was done on 10% of the total sample (n =39) in a similar setting these respondents were not included in the final data collection. Modification was done accordingly. Tool was translated in English for maintaining linguistic validity by consulting with both English and Nepali Subject expert. The content validity was maintained by consultation with subject experts COVID-19 expert physician. The researcher herself was engaged in data collection and monitoring, data entry, editing, and processing and analysis procedure consistently.

Ethical approval

Ethical clearance was taken from the Ethical Review Board of Nepal Health Research Council (NHRC) (Ref. No-527/10 September, 202I), and written informed consent was obtained from each of the participants and their parents before data collection. Likewise, they were also informed regarding the risks and benefits of the study. Anonymity and confidentiality of the participant was maintained throughout the study and after data collection.

Data Collection Technique

The data was collected for 4 weeks last Bhadra to Ashoj among eligible respondent (teachers and students) among five schools of Mahalaxmi municipality of Dhankuta. Each respondent was explained about the nature, purpose of the study and maintained social

distancing, using mask and sanitizer before performing self-administer questionnaire. Informed consent (both verbal & written) was taken before performing self-administer questionnaire. Each participant was given 15-20 minutes for responding questionnaire. For minimizing the contamination of data, distance was maintained between students in the classroom. Collected data was checked for its completeness and editing was done on the same day to prevent recall bias, ensure quality & accuracy of the study.

Data management and analysis

Data entry, editing, and processing and analysis procedure. Collected data was checked daily for its completeness. At first data entry was done by using computer software Statistical Package for the Social Sciences (SPSS) version 16.00. Descriptive analysis i.e. frequency, percentage, mean, median and standard deviation was used to assess the knowledge and practice on COVID-19 among teachers and students. Inferential analysis i.e. binary logistic regression and multiple logistic regressions were used to find the association between dependent and selected demographic variables. In binary logistic regression analysis was $P=0.2$ it was done in multiple logistic analysis. P- Value of less than 0.05 is significant.

Results and Discussion

Tables 1A

Socio-Demographic Characteristic of Respondents

Characteristics	Frequency	Percentage
Respondents	102	26.4
Teachers		
Students	285	73.6
Age (years)		
15-19	285	73.6
20-45	78	20.2
46-60	24	6.2
Mean± Std. Deviation	21.9±4.3	
Sex		
male	173	44.7
Female	214	55.4
Education		
Secondary	285	73.6
SLC	6	1.6
Higher Secondary	23	5.9
Bachelor/ Master	73	18.9
Ethnicity		
Dalit	3	0.8
Madeshi/ Muslim	13	3.4
Janajati	183	47.3
Brahmin / Chhetri	188	48.6
Religion		
Hindu	333	86.0
Buddhist	44	11.4
Kirat	5	1.3
Christian	5	1.3

Note. N = 387

Table 1 revealed that among 387 respondents, More than two-thirds (73.6%) of respondents were students whereas only 26.4% of respondents were teachers. Nearly three fourth (73.6 %) of respondents were age 15 to 19 years where as more than half (55.4) were female respondents. Among the respondents, 73.6% of respondent's education level was secondary level whereas only 18.9% were bachelor and master level. Less than half (48.6) of respondent were Brahmin/ Chhetri. Most of (86.0) of respondent were Hindu whereas only 1. 3% of respondents were Kirat dharma and Christian.

Table 1B

Socio-Demographic Characteristic of Respondents

Characteristics	Frequency	Percentage
Father education		
Illiterate	52	13.4
Literate	133	34.4
Primary	34	8.8
Lower secondary	39	10.1
Secondary	67	17.3
SLC & above	62	16.0
Mother Education		
Illiterate	69	17.8
Literate	158	40.8
Primary	49	12.7
Lower secondary	44	11.4
Secondary	36	9.6
SLC & above	31	8.0
Sources of Information**		
Family/ teachers/ school	243	62.8
Social media	276	71.3
Teachers/ school	200	51.7
Radio	283	73.1
Television	283	73.1

Note. N = 387

Table 1B reveals that more than one-thirds (34.4%) of respondent's father's education were only literate whereas only 16% fathers' education were SLC and above. Less than half of (40.8%) of respondent's mother's education were only literate whereas only 8.0% of respondent's mother's education were SLC and above. More than two-third (73.1%) of the respondents were received information of COVID-19 from radio and television whereas only 51.7% of respondents received information from teachers/school.

Table 2

Respondent's Knowledge on causes of Covid-19 as a Communicable Disease

Characteristics	Frequency	Percentage
Heard of COVID-19		
Yes	364	94.1
Communicable disease		
True	381	98.4

Emerge disease		
Bacteria	122	31.5
Virus	230	59.4
Fungus	2	0.5
Parasite	8	2.1
Do not know	25	6.5
Incubation duration of COVID-19		
< 2 days	11	2.8
2 to 5 days	7	1.8
3 to 14 days	343	88.6
Do not know	26	6.7
Treatment of COVID-19		
Symptomatic treatment	339	87.6
Antibiotic	30	7.8
No treatment	18	4.7

Note. N = 387

Table 2 illustrated that almost of respondents (94.1%) of respondents had heard about COVID-19. Almost (98.4%) of respondents knew that COVID-19 as a communicable disease. Nearly sixty (59.4%) of respondents replied causative organism of COVID-19 is virus. Most of (88.6%) respondents answered incubation duration of COVID-19 is 3 to 14 days. More than fourth fifth (87.6%) of respondents answered treatment of COVID-19 is symptomatic treatment.

Table 3

Respondent's Knowledge on Risk, Common & Uncommon Symptoms of Covid-19

Characteristics	Frequency	Percentage
Risk group of Covid-19[**]		
Children	82	21.2
Aging people	84	21.7
People with Chronic disease	230	59.4
People Lung, Heart& diabetes people	191	49.4
Common Symptoms of COVID-19[**]		
Fever	315	81.4
Dry cough	254	65.6
Fatigue	194	50.1
Running nose	238	61.5
Uncommon Symptom[**]		
Sore throat	234	60.5
Body ache	190	49.1
Diarrhea /constipation	223	57.6
Headache	297	76.7
Lack of taste/ smell	227	58.7
Nausea	189	48.8
Vomiting	168	43.4
Spot in skin	209	54.0

Note. N = 387 , [**]*indicates that multiple response, each response equal to 100%.*

Table 3 revealed that more than half (59.4%) of respondents answered people with chronic disease is a risk group of Covid-19 whereas children and aging group is 21.2% and 21.7% respectively. Most of (81.4%) of respondents said that fever is a common symptom of Covid-19. Third-forth (76.7%) of the respondents were answered headache is the uncommon symptoms of Covid-19 where only less than half (49.1%) of the respondents answered body ache is an uncommon symptom of Covid-19.

Table 4

Respondent's Knowledge on very serious symptoms & Route of Transmission of Covid-19

Characteristics	Frequency (f)	Percentage (%)
Very Serious symptoms of COVID-19∗∗		
Difficulty in breathing	299	77.3
Pressure or pain in chest	239	61.8
Difficult to speak	168	43.4
Route of Transmission of COVID-19∗∗		
Contaminated surface	90	23.3
Contact with infected person	195	50.4
Contaminated food and meat	46	11.9
Transmission from cough	45	11.6
Mosquito bite	26	6.5
Infected saliva	126	32.6
Infected person without symptoms	11	2.8

Note. N = 387, ∗∗ indicates that multiple response, each response equal to 100%.

Table 4 reveals that more than third-fourth (77.3%) of respondents answered difficulty in breathing is very serious symptoms of Covid-19 whereas 43.4% of respondents answered difficult to speak. Half (50.4%) of the respondents were answered route of transmission is Contact with infected person where as only 2.8% respondents answered infected person without symptoms.

Table 5

Respondent's Knowledge on action taken during Covid-19

Characteristics	Frequency (f)	Percentage (%)
If Covid -19 is Suspected to measure fever		
True	368	95.1
false	7	1.8
do not know	12	3.1
If Covid-19 is Suspected to take Dr. advice		
True	380	98.2
False	4	1.0
Do not know	3	0.8
If Covid-19 is Suspected to avoid daily activities		

True	116	30.0
False	268	69.3
Do not know	3	0.8
Maintaining physical distance to prevent from transmission of Covid-19		
True	369	95.0
False	18	4.6
Prevalence Covid-19		
True	352	91.0
False	35	8.1
Hand washing is preventive measures of Covid-19		
True	352	91.0
False	35	9.1

Note. *N* = 387

Table 5 revealed that most (95.1%) of respondents were answered to measure fever when Covid-19 occurs whereas only 3.1% of respondents answered do not know when Covid-19 occur. Almost all (98.2%) of the respondents answered to take advice when Covid-19 occurred. More than two-thirds (69.3%) of the respondents answered to avoid daily activities when Covid-19 occur. Almost (95.0%) of the respondents answered maintaining physical distance to prevent from Covid-19. Most (91.0%) of the respondents answered hand washing is preventive measures of Covid-19.

Table 6

Respondent's Knowledge on more Dangerous Condition during Covid-19

Characteristics	Frequency(f)	Percentage (%)
More dangerous in pregnant women		
True	356	92.0
More dangerous in old individual		
True	316	81.7
More dangerous in weaken immunity		
True	355	91.7
More danger in cancer, diabetes & chronic respiratory disease		
True	370	95.6
Vaccination to Prevent & Transmit from Covid-19		
True	337	87.1
Avoid junk food to prevent & transmit from Covid-19		
True	362	93.5
Avoid traveling to prevent & transmit from Covid-19		
True	377	97.4
Avoid hand shaking, hugging& kissing to prevent & transmit from Covid-19		
True	363	93.8
Washing hand frequently to prevent transmit from Covid-19		
True	361	93.3
Wash hand with soap & water to prevent transmit from Covid-19		
At least 20 seconds	374	96.6

| less than 7 second | 9 | 2.3 |

Note. N = 387

Table 6 shows that Most of respondents (92.0%) were answered Covid-19 is more dangerous in pregnant women. More than third-fourth (81.7%) of the respondents were answered Covid-19 is more dangerous in old individual. Most (95.6%) of the respondents answered Covid-19 is more dangerous in weaken immunity. Almost (95.6%) of the respondents were answered Covid-19 is more dangerous in cancer, diabetes & chronic respiratory disease. Third-fourth (87.1%) of the respondents' answered vaccination can Prevent & Transmit from Covid-19. Most (93.5%) of the respondents answered avoid junk food to prevent & transmit from Covid-19. Almost of the respondents answered avoiding travel to prevent & transmit from Covid-19. Nearly ninety-four (93.8%) of respondents answered avoiding hand shaking, hugging & kissing to prevent & transmit from Covid-19. Most (93.3%) of respondents answered washing hand with soap & water at least 20 second to prevent transmit from Covid-19.

Table 7

Practice on Preventive measures Prevent & Transmit to from Covid-19

Variables	Frequency	Percentage
Avoid public transport to prevent & transmit from Covid 19		
Yes	377	97.4
Avoid going work to prevent & transmit from Covid-19		
Yes	372	96.1
Regular hand washing		
true	367	94.8
Maintain hygiene to prevent & transmit from Covid-19		
True	374	96.6
Use Disinfectant to prevent & transmit from Covid-19		
True	253	65.4
Use Herbal product to prevent & transmit from Covid-19		
True	225	58.1
Use Multivitamin to prevent & transmit from Covid-19		
True	224	57.9
Wear mask to prevent & transmit from Covid-19		
Some time	20	5.2
Public place & crowded placed	126	32.6
Most of time	113	29.2
Always	128	33.1

Note. N = 387

Table 7 shows that almost (97.4%) of respondents answered avoiding public transport to prevent & transmit from Covid-19. Almost (96.1%) of the respondents answered avoid going work to prevent & transmit from Covid-19 during Covid-19 occur. Nearly ninety five (94.8%) of respondents answered washing regular hand wash for preventive measure of Covid-19. Most of respondents (96.6%) answered maintaining hygiene to prevent & transmit from Covid-19. Nearly two-thirds (65.4%) of respondents were answered causing disinfectant to prevent & transmit from Covid-19. More than half (58.1%) of respondents answered using herbal product

to prevent & transmit from Covid-19. More than half (57.9%) of respondents answered using multivitamin to prevent & transmit from Covid-19.

Level of Knowledge	Frequency (f)	Percentage (%)
Level of Knowledge		
Poor knowledge	191	49.4
Good of Knowledge	196	50.6
Mean score ± Std. Deviation	26.9±3.6	
Level of Practice		
Poor Practice	195	50.4
good Practice	192	49.6
Mean± Std. Deviation	10.4±1.8	

Note. N = 387
Table 8
Respondent's Level of Knowledge and level of practice on Covid-19

Table 8 shows that half (50.6%) of the respondents were good level of knowledge on Covid-19 whereas 49.4% of the respondents had poor level of knowledge on Covid-19. Mean score and standard deviation of knowledge were 26.9±3.6**.** Likewise more than half (50.4%) of respondents had poor practice on Covid-19 and less than half (49.6%) of respondents had good practice. Mean score of the practice is 10.4±1.8.

Table 9
Association between level knowledge of Covid-19 and demographic variables (binary logistic regression)

Variable	Poor knowledge	Good knowledge	Unadjusted OR	CI	p-Value
Teachers	61	41	1.774	1.121-2.808	0.014*
Students	130	155			
Age					
15- 19	120 (42.1)	165 (57.8)			
20-45	55 (70.5)	23 (29.4)	2.750	1.140-6.634	0.024*
≥46	16(66.6)	88 (33.3)			
Education Level					
Secondary	129	156	0.533	0.336-0.846	0.008*
Higher	62	40			
Religion					
Hindu	152	181	0.323	0.171- 0.608	0.000*
Others	39	15			
Mothers education					
illiterate only	166	25	0.520	0.304-891	0.017*
Literate	152	44			

Note. N = 387, * *Significant association p value < 0.05*

Table 11 shows that student's knowledge is significantly associated with teachers knowledge (P=0.014; uOR=1.774; CI= 1.121-2.808). There is association between age (p=0.024;uOR=2.750; CI=1.140-6.634); education level; (p=0.008; uOR=0.533; CI=0.336-0.846); religion(p=0.000; uOR=0.323; CI=0.171- 0.608) and mothers education (p=0.017; uOR=0.520; CI=0.304-891) with the level of knowledge.

Table 10

Association between level of Knowledge and demographic variables (Multivariate analysis)

Variables	unadjusted OR	adjusted OR	CI	p-value
Respondent				
Teacher				
Student	1.774	2037477.391	1121645.6 -3701092.3	0.000*
Age				
15- 19				
20-45	2.750	2.250	1.402 - 3.610	0. 001*
≥46				
Religion				
Hindu	0.323	1.977	1.211- 3.227	0.006*
Others∗∗∗				.
Mother education				
Illiterate	0.520	2.357	1.251- 4.439	0.010*
Literate				

*Note. N = 387, * Significant association p value < 0.05; ∗∗∗ indicates that Budhist, Kirat and Christian)*

Table 11 depicts that multivariate analysis between the knowledge and demographic variable. There is association between level of knowledge of student on Covid-19 is significant association with the knowledge of teachers (p=0.000; aOR=2037477.391; CI=1121645.6 - 3701092.3); age (p=0. 001; aOR=2.250; CI=1.402 - 3.610); religion (p=0.006; aOR=1.977; CI=1.211- 3.227) and mother education (p=0.010; aOR=2.357; CI=1.251- 4.439). Students had 2037477.391 times better knowledge than teachers whereas age 15 to 19 had 2.250 times good knowledge than 20 to 45 years and above 46 years. Similarly Hindus had 1.977 times good knowledge than others. Those had educated mother were 2.357 times good knowledge than illiterate (uneducated) mothers.

Table 13

Association between level of Practice of Covid-19 and demographic variables (Univariate analysis)

Variable	Poor Practice	Good Practice	Unadjusted OR	CI	p-Value
Age					
15- 19	47	147	1.067	0.759-1.500	0.708
20-45	55	138			
≥46					
Ethnicity					
Brahmin/Chhetri	107	113	0.576	0.385-.862	0.007*
Others	81	86			
Mother Education					
Illiterate	59	135	1.228	1.072-1.407	0.003*

Literate	101	92

Note. N = 387, **Significant association p value < 0.05*

Table 13 reveals that reveals that there is association between levels of practice with ethnicity (p=0.007; uOR =0.576; CI=0.385-.862) and mother education (p=0.003; uOR=1.228; CI=1.072-.1.407) whereas other factors is not associated with the level of knowledge such as teachers and students (p=0.341; uOR=1.247; CI=0.792-1.962) age, sex, ethnicity, religion and father education.

Table 14

Association between level of practice and demographic variables (Multivariate analysis)

Variables	unadjusted OR	adjusted OR	CI	p-value
Ethnicity				
Bramin/Chettri	0.576	1.810	1.202- 2.726	0.004*
Others				
Mother's education				
Illiterate	1.228	0.804	0.700-0.923	0.002*
Literate				

Note. N = 387, **Significant association p value < 0.05; others include Janajati, Madeshi, & Dalit*.

Table 14 shows that association between level of practice and demographic variables. There is significantly association between level of practice and ethnicity (p=0.004; aOR=1.810; CI=1.202- 2.726) and mother's education (p=0.002 ;aOR=0.804; CI=0.700-0.923). Bramin/Chhetri 1.810 times good practice than other and those had educated mother were 0.804 times good practice than illiterate (uneducated) mothers.

Current study finding revealed that nearly three fourth (73.6 %) students were age 15 to 19 years where as more than half (55.4%) were female respondents whereas similar study conducted among 354 students of a government medical college in Uttarakha study finding showed that 54.5% were 21-23 years and 50.3% were male, this might be the setting, socio-demographical variables (Khasawneh et al., 2020). Present study finding revealed that more than two-third (73.1%) of the respondents were received information of Covid-19 from radio and television whereas only 51.7% of respondents received information from teachers/school. Study conducted in conducted on two high schools in semi-rural Georgia among 761 students contradict result shows that forth-fifth(80%) of students reported that they received news through personal communications i.e. friend, family member and 91% received their news from two or more of the sources. Over half of the students (58%) reported social media like Face book, Instagram, Twitter, YouTube as a source of Covid-19 news (Campbell et al., 2021).

This study finding revealed that almost of respondents (94.1%) of respondents were heard about Covid-19. Nearly sixty (59.4%) of respondents replied causative organism of Covid-19 is virus. Similar study conducted on school students in Bharatpur, Chitwan District of Nepal finding shows that 67.3% of respondents had heard about Covid-19. Nearly three- fourth of the respondents (73.3%) were aware that Covid-19 is a viral infection (Maheshwari et al., 2020). This may be the similar context and socio-demographical variable.

Likewise, the present study finding shows that most of (81.4%) of respondents said that

fever is a common symptom of Covid-19. Third-forth (76.7%) of the respondents were answered headache is the uncommon symptoms of Covid-19 where only less than half (49.1%) of the respondents answered body ache is an uncommon symptom of Covid-19; more than third-fourth (77.3%) of respondents answered difficulty in breathing is very serious symptoms of Covid-19 whereas 43.4% of respondents were answered difficult to speak. similarly, study conducted in US finding shows that Covid-19 cohort positive were fever (57.3%), dry cough (53.9%), and shortness of breathy/difficulty breathing (49.4%). For the Negative Cohort, the top three symptoms were fever (49.6%), headache (44.2%), and dry cough (42.8%). Shortness of breath/difficulty breathing, respiratory issues, fatigue/tiredness, new loss of smell and taste, diarrhea, persistent pain or pressure in the chest, chills and shaking, and trouble waking up after sleeping were significantly lower for the Negative Cohort compared with the Positive Cohort (Morlock et al., 2021).

Furthermore, present study finding shows that almost all (98.2%) of the respondents were answered to take advice when Covid-19 occur. More than two-thirds (69.3%) of the respondents were answered to avoid daily activities when Covid-19 occur. Almost (95.0%) of the respondents answered maintaining physical distance to prevent from Covid-19. Most (91.0%) of the respondents answered hand washing is preventive measures of Covid-19. similar finding revealed that the study conducted in Southern Philippines; nearly three-fourth (73.58%) of the students knew that the Covid-19 could spread through touching, sneezing, kissing, and food. Most of (91.70%) the students were understood the importance of staying at home as a precautionary measure to stop the spread of the virus in the community. In terms of the perceptions of students on the risks of Covid-19 and the effectiveness (62.64%) perceived a high-risk level of becoming infected and students have seen the following as highly effective: social distancing and wearing a face mask (60%), hand washing and sanitizing (66.42%), and staying at home (Baloran, 2020).

Present study finding shows that almost (97.4%) of the respondents answered avoiding travel to prevent & transmit from Covid-19. Nearly ninety-four (93.8%) of respondents answered avoiding hand shaking, hugging& kissing to prevent & transmit from Covid-19 and most (93.3%) of respondents answered washing hand with soap & water at least 20 second to prevent transmit from Covid-19. More than third-fourth (81.7%) of the respondents were answered Covid-19 is more dangerous in old individual, weaken immunity (95.6%); cancer, diabetes & chronic respiratory disease (95.6%) respectively. Similar finding revealed that most students (93.7%), believed that shaking hand, kissing (94.7%), exposure to contaminated surfaces (97.4%), and droplet inhalation (91.0%) are the primary mode of transmission but were indecisive regarding airborne transmission with only 41.8% in support. Participants also reported that elderly with chronic illnesses are the most susceptible group for the corona virus infection (95.0%). As a response to the Covid-19 pandemic more than 80.0% of study participants adopted social isolation strategies, regular hand washing, and enhanced personal hygiene measures as their first line of defense against the virus (Khasawneh et al., 2020).

Present study finding revealed that almost (97.4%) of respondents answered avoiding public place, avoid going work(96.1%), washing regular hand; using disinfectant(65.4%) maintaining hygiene(96.6%)and More than half (57.9%) of respondents answered using multivitamin to prevent & transmit from Covid-19 respectively. Similar finding revealed that study conducted in Bagaladesh among 305 participants, result revealed that More than one third of the students had negative attitude to avoiding public transport and going out to public places

with friends and family. The practice of students practice was not satisfactory. More than one third of students were not keen to stay at home and avoid going to crowded places (Wadood et al., 2021). The study conducted on Final-Year Senior High Students at a Technical Institute in Ghana finding shows that more than half (50.6%) of the respondents were good level of knowledge on Covid-19 whereas 49.4% of the respondents had poor level of knowledge on Covid-19. Similar study finding shows that more than half (56.8%) of the participants had good knowledge about its symptoms, way of spread and prevention of the virus and, 65.4% of clients demonstrated five or more preventive practice score with standard deviation was (4.75±1.28 from 6 components) (Dewau et al., 2021). Another contradictory finding shows that more than two thirds (80%) of respondents were highly knowledgeable whereas 99.3% reported good practice toward measures to prevent the spread of Covid-19 (Ssebuufu et al., 2020).

Present study finding shows that there is association between age (p=0.024;uOR=2.750; CI=1.140-6.634); education level; (p=0.008; odd=0.533; CI=0.336-0.846); religion (p=0.000; uOR=0.323; CI=0.171- 0.608) and mothers' education (p=0.017; uOR=0.520; CI=0.304-891). Study conducted in BharatpurChitawan contradict finding shows that there is no significant relationship was found between different religions, age-categories in terms of knowledge; the participants who were aged 21-23 years had higher knowledge. Gender had a significant impact on practice scores (P<0.05) while no demographic variable was found to have a significant relation with attitude score (P>0.05) (Maheshwari et al., 2020).

Present study multivariate logistic regression analysis show that student's knowledge is significantly associated with teachers' knowledge (P=0.014; odd=1.774; CI= 1.121-2.808). Students' knowledge 2037477.391 times higher than teacher's knowledge (p=0.000; aOR=2037477.391; CI=1121645.6 -3701092.3). Similar study finding supported this finding revealed teacher knowledge 5.2 times higher than students' knowledge teachers [aOR: 5.2 (2.6– 10.32), *p* < 0.001]; students [aOR: 3.2 (1.96–5.33), *p* < 0.001] (Ssebuufu et al., 2020).

Present study's multivariate logistic analysis indicated level of knowledge with age 15-19 is 2.250 times higher than other age (age 20-45; >46) (p=0. 001; aOR=2.250; CI=1.402 - 3.610). A large-scale population-based survey was conducted to among Chinese teachers the multivariate logistic analysis contradictory finding indicated that poor knowledge related to Covid-19 was common among men, younger, and less-educated teachers. In contrast, female teachers and those with higher education levels tend to have good practices against Covid-19 (Chen et al., 2021).

Present study finding show that association between level of practice and demographic variables. There is significantly association between level of practice and ethnicity (p=0.004; aOR=1.810; CI=1.202- 2.726) and mother's education (p=0.002 ;aOR=0.804; CI=0.700-0.923). contradict finding shows that the study conducted 354 students of a government medical college in Uttarakh result showed that .the gender had a significant impact on practice scores (P<0.05) while no demographic variable was found to have a significant relation with attitude score (P>0.05).The majority of the participants had good knowledge, positive attitude, and sufficient (Maheshwari).

Conclusion

The finding of study concluded that more than two-thirds of respondents were students. Whereas only less than one thirds of respondents were teachers. Half of the respondents were

good level of knowledge on Covid-19. More than half of respondents had poor practice on Covid-19 and nearly half of respondents had good practice. Multivariate analysis shows that there is association between levels of practice with ethnicity; mother education. There is significantly association between level of practice and ethnicity, mother's education. The study concluded that nearly half of the respondents had still poor level of knowledge and practice on Covid-19 so awareness programmed should be conducted to enhance the level of Knowledge and practice of teachers and students of Mahalaxmi Municipality.

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