ORIGINAL RESEARCH ARTICLE

KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS COVID-19 AMONG PATIENTS ATTENDING EAR, NOSE AND THROAT OUT-PATIENT DEPARTMENT AT A TERTIARY HOSPITAL

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ABSTRACT

Background: The COVID-19 pandemic has ravaged the world and Nepal reported its first case on 23rd January 2020. Increasing people's knowledge of the disease can modify attitude and change practice and is key in prevention. This study assessed the knowledge, attitude and practice (KAP) of patients presenting to the Ear, Nose and Throat (ENT) out-patient department (OPD).

Methods: A hospital based cross-sectional study was conducted at the ENT OPD with 906 patients. Patients aged 20 years and above were studied regarding their KAP towards COVID-19. A questionnaire was used to collect data and analysed for gender, age group, education level and occupations. Statistical analysis was done using Mann-Whitney and Kruskal-Wallis tests.

Results: Males had better knowledge and more positive attitude compared to females, which was statistically significant (p 0.001 and p 0.011). Similarly, there were significant statistical differences among the various age groups in knowledge (p <0.001), however, attitude and practice were not different. When KAP was compared to education, differences in knowledge and attitude were statistically significant p<0.001. Likewise, statistical differences existed with regard to knowledge and the various occupations (p <0.001), but a positive attitude was noted in all occupations. Practice was correct in the majority of studied groups with no statistical differences seen.

Conclusions: Among the ENT patients correct practice was seen in all the groups namely, gender, age, education and occupation. However, there were differences in knowledge and attitude levels.

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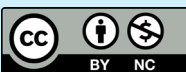
INTRODUCTION

The corona virus disease (COVID-19) pandemic has affected the world with the virus first detected in December 2019 in Wuhan, China's Hubei province.[1] COVID-19 was declared as a pandemic by the World Health Organization (WHO) on 11th March 2020.[2] The virus has mutated into multiple strains and caused multiple surges.[3] Nepal reported the first case of COVID-19 on 23rd January 2020,[4] and the first death due to COVID-19 was on the 16th May 2020, at Dhulikhel Hospital.[5, 6]

Nepal initiated preventative and treatment modalities to control the pandemic but the development of vaccines has led to optimism.[7] However, due to the development of new strains preventative measures still need to be adhered to.[8] It is established the lack of knowledge, arising to incorrect practices and negative attitudes can increase infections.[9, 10] Adherence to guidelines instituted by health authorities (World Health Organization) depends on the individual's knowledge and attitude, as was documented by Zhong *et al*, where the general population's adherence to control measures was found to be affected by their KAP.[11]

Patients with symptoms of cold and cough are commonly encountered in the ENT department. COVID-19 patients may present with flu like symptoms, sore throat, loss of smell and/or taste or without any symptoms.[12] Doctors treating such patients are at increased risk of exposure to the disease, hence, they need to be cautious. This study aimed to find out the KAP of the patients attending the ENT OPD regarding the current COVID-19 disease.

METHODS

A hospital based cross-sectional study was conducted in the ENT out-patient of Nepal Medical College Teaching Hospital, for 3 months from July 2021 to September 2021. Purposive sampling was done and 906 consecutive patients, aged 20 years and above were included in the study. Patients willing to participate in the study were included but patients who were ill and could not respond or were mentally handicapped were excluded.

Data was collected using a modified validated questionnaire developed by Doke P *et al* to assess the KAP of patients.[13]

The questionnaire was translated in to the Nepali language, pretested and validated. Patients who were unable to understand the questions were assisted by the author. The first section of the questionnaire consisted of sociodemographic characteristics, while the second consisted of 23 questions related to KAP. There were 12 questions about knowledge, 4 about attitude and 7 about practice. The respondents answered yes, no or "do not know" in the knowledge and attitude sections. Each correct answer carried one score, whereas, an incorrect or "do not know" carried none. The score ranged from 0 to 12. For knowledge, scores 0 to 4 were graded as poor, 5 to 8 as good and 9 to 12 as very good.[13]

The attitude scores were graded into positive, negative and neutral. Each correct answer carried one score, whereas, an incorrect or "do not know" carried none. Scores of 3 and above were taken as positive, 2 as neutral and 1 or 0 as negative attitude.

In the practice section, the answers were yes or no, yes scoring 1 and no scoring 0. Patients scoring 4 to 7 followed correct practice while those scoring 0 to 3 followed incorrect practice.

The total score for each patient and the group was calculated to ascertain the level of KAP among the respondents as well as overall. Statistical analysis was done based on gender, age, educational level and occupation. Education levels and occupation groups were classified according to the Government of Nepal.

Statistical analysis was done using SPSS version 16. Descriptive statistics was calculated for frequency, mean and standard deviation. Mann-Whitney U test and Kruskal Wallis test were used for calculations. Statistical significance was set at p value of <0.05. Permission for the study was obtained from the Research and Ethical Sub Committee (RESC) of Nepal Medical College Teaching Hospital.

RESULTS

The total number of participants involved in the study were 906, out of which 489 (54%) were females and 417 (46%) males. Most patients attending the OPD were asymptomatic (90.2%) and 17.2% had proven COVID-19. The participants were divided into groups according to gender, age, education and occupations and these sociodemographic characteristics are shown in the table (Table 1) .

Table 1: Sociodemographic characteristics of the respondents

Variables	Sub division	Frequency (%)
Gender	Male	417 (46%)
	Female	489 (54%)
Age groups (years)	20 - 39	638 (70.4%)
	40 - 59	222 (24.5%)
	60 and above	46 (5.1%)
Address	Urban	757 (83.6%)
	Rural	149 (16.4%)
Education	No formal education	170 (18.8%)
	Basic education (1-8)	166 (18.3%)
	Secondary education (9 -12)	350 (38.6%)
	Bachelors	176 (19.4%)
	Masters and above	44 (4.9%)
Occupations	Legislators, senior officials, managers	23 (2.5%)
	Professionals	117 (12.9%)
	Technicians, associate professionals	49 (5.4%)
	Clerk, office assistants	33 (3.6%)
	Service worker, shop and market sales worker	56 (6.2%)
	Skilled and semi-skilled agricultural and fishery workers	55 (6.1%)
	Craft and related trade workers	47 (5.2%)
	Plant and machine operators and assemblers	22 (2.4%)
	Elementary occupations	70 (7.7%)
	Armed forces	11 (1.2%)
	Unemployed	423 (46.7%)

When gender and KAP was analysed it was seen the majority, 50.5% of females had good knowledge, whereas the majority of the males had very good knowledge (58%), but more females had poor knowledge. The association between gender and the different knowledge levels was statistically significant (p 0.001). Sixty percent of males had positive attitude compared to 51.7% for females. Nevertheless, more females had negative attitude in comparison to males. The association between gender and attitude was statistically significant (p 0.011). When practice was analysed, the majority in both genders, 99.2% of females and 97.8% of males had correct practice. This difference was not statistically significant (Table 2).

Table 2: Gender and KAP

Gender	Male n (%)	Female n (%)	Total n (%)	P value
Knowledge				
Very Good	242 (58.0%)	230 (47%)	472 (52.1%)	
Good	171 (41.0%)	247(50.5%)	418 (46.1%)	
Poor	4 (1.0%)	12 (2.5%)	16 (1.8%)	0.001
Total	417 (46.0%)	489(54.0%)	906 (100%)	
Attitude				
Positive	250 (60.0%)	253(51.7%)	503(55.5.0%)	
Negative	55 (13.1%)	84 (17.2%)	139 (15.3%)	
Neutral	112 (26.9%)	152(31.1%)	264 (29.1%)	0.011
Total	417 (46.0%)	489(54.0%)	906 (100%)	
Practice				
Correct	408 (97.8%)	485(99.2%)	893 (98.6%)	
Incorrect	9 (2.2%)	4 (0.8%)	13 (1.4%)	
Total	417 (46.0%)	489(54.0%)	906 (100%)	0.091

Comparing the level of KAP among the various age groups gave us the following results: most people in the 20 to 39 age group had very good knowledge (56.3%), whereas the majority in the other two age groups had good knowledge (54%). It was noted that throughout the three age groups, majority of the patients had a positive attitude (56%, 55% and 52%). Patients in all the three age groups showed correct practice that accounted for more than 95% of the respondents. There was no significant difference in attitude and practice, however, there was significant difference in association between age group in relation to knowledge (p <0.001) (Table 3).

Table 3: Age groups and KAP

Age groups in years	20 – 39 (Group 1)	40 – 59 (Group 2)	60 and above (Group 3)	Total (%)	P value
Knowledge					
Very Good	359 (56.3%)	94 (42.3%)	19 (41.3%)	472(52.1%)	
Good	273 (42.8%)	120 (54.1%)	25 (54.3%)	418 (46.1%)	
Poor	6 (0.9%)	8 (3.6%)	2 (4.3%)	16 (1.8%)	<0.001
Total	638 (70.4%)	222 (24.5%)	46 (5.1%)	906 (100%)	
Attitude					
Positive	357 (56.0%)	122 (55.0%)	24 (52.2%)	503 (55.5%)	
Negative	91 (14.3%)	36 (16.2%)	10 (21.7%)	264(29.9%)	
Neutral	190 (29.8%)	64 (28.8%)	12 (26.1%)	139 (15.3%)	0.261
Total	638 (70.4%)	222 (24.5%)	46 (5.1%)	906 (100%)	
Practice					
Correct	629 (98.6%)	220 (99.1%)	44 (95.7%)	893 (98.6%)	
Incorrect	9 (1.4%)	2 (0.9%)	2 (4.3%)	13 (1.4%)	0.742
Total	638 (70.4%)	222 (24.5%)	46 (5.1%)	906 (100%)	

There was significant association between the various education groups regarding knowledge and attitude (p <0.001), but practice did not show the same trend (p 0.156). Most people with masters and above had very good knowledge (86.4%), however, more people with no formal education had good knowledge (68.8%) compared to other groups, but they also had more people with poor knowledge (4.7%). Similarly, positive attitude was seen more in the masters and above education group (63.6%) and negative and neutral attitude more in the no formal education group (Table 4).

It was established that there was significant difference in knowledge between the occupation groups (p <0.001). The group consisting of professionals had the greatest number of people having very good knowledge (76.1%) when compared to the other groups. Likewise, skilled and semi-skilled agricultural and fishery workers group had the greatest number of people with good knowledge (69.1%) but also the most people with poor knowledge (7.3%). Most occupation groups showed positive attitude (55.5%) with only 15.3% showing negative attitude. Likewise, 98.6% had correct practice with only 1.4% having incorrect practice. There was no significant difference in attitude and practice among the various groups of occupations (Table 5).

Table 4: Education level and KAP

Education level	No formal education (Group 1)	Basic level (Group 2)	Secondary level (Group 3)	Bachelors (Group 4)	Masters and above (Group 5)	Total	p- value
Knowledge							
Very Good	45 (26.5%)	84 (50.6%)	182 (52.0%)	123 (69.9%)	38 (86.4%)	472(52.1%)	
Good	117 (68.8%)	76 (45.8%)	166 (47.4%)	53 (30.1%)	6 (13.6%)	418(46.1%)	<0.001
Poor	8 (4.7%)	6 (3.6%)	2 (0.6%)	0 (0.0%)	0 (0.0%)	16 (1.8%)	
Total	170 (18.8%)	166(18.3%)	350 (38.6%)	176 (19.4%)	44 (4.9%)	906 (100%)	
Attitude							
Positive	65 (38.2%)	94 (56.6%)	208 (59.4%)	108 (61.4%)	28 (63.6%)	503(55.5%)	
Negative	44 (25.9%)	27 (16.3%)	44 (12.6%)	20 (11.4%)	4 (9.1%)	139 (15.3%)	<0.001
Neutral	61 (31.9%)	45 (27.1%)	98 (28.0%)	48 (27.3%)	12 (27.3%)	264(29.1%)	
Total	170 (18.8%)	166 18.3%	350 (38.6%)	176 (19.4%)	44 (4.9%)	906 (100%)	
Practice							
Correct	164 (96.5%)	166 (100%)	345 (98.6%)	174 (98.9%)	44 (100%)	896(98.6%)	
Incorrect	6 (3.5%)	0 (0.0%)	5 (1.4%)	2 (1.1%)	0 (0.0%)	13 (1.4%)	0.156
Total	170 (18.8%)	166 18.3%	350 (38.6%)	176 (19.4%)	44 (4.9%)	906 (100%)	

DISCUSSION

It is known that preventative measures are a major tool against infective diseases. With the start of the COVID-19 pandemic the WHO introduced measures to be followed by the general populations to help prevent the spread of the pandemic. These measures find more credence if the population has knowledge about the condition, which further shapes their attitude and practice. This study looked at KAP of patients attending the ENT out-patient of a tertiary hospital where most respondents were from urban areas (the hospital being in an urban area), with secondary level education and most were unemployed.

It was seen that most studies looking at KAP were either done among health personnel and if done in the general population they were web-based studies. These web-based studies have an inherent bias which may include but are not limited to selection bias, lack of generalizability of the results, survey fraud and participant disinterest.[14] Nonetheless, with the pandemic taking hold of the various populations and the danger therein, web-based surveys were predominantly undertaken. In contrast this study looked exclusively at patients attending the ENT OPD. There have been studies that detail the symptomatic presentation of patients attending ENT services, especially their effect on the sensory-neural mechanisms, which may present with impairment of taste, smell and chemesthesis.[15]

It was noted that more females attended the ENT OPD during the stipulated time, with most participants being young (20 to 39 years), nevertheless, in an online study in Pakistan it was found that there were more male respondents,[16] but an online study in China showed more female participants.[11] A study done among health care workers at a tertiary hospital also had more female respondents,[17] which may be because most health care workers working in a hospital are nurses, who are predominantly females in Nepal.

Majority of the males seemed to have very good knowledge regarding the disease, whereas most females had good knowledge. Overall, there was a significant association between gender and knowledge. This is different to the study conducted by Doke *et. al*. in India where there was no difference in knowledge between the genders,[13] contrary to the study done by Zhong *et. al*. in China, which showed females had better knowledge and a study in Bangladesh also had similar findings.[11, 18] Likewise, gender was also significantly associated with attitude, with males having more positive attitude in comparison to females. Nevertheless, majority of both males and females had positive attitude, when compared to neutral or negative attitude. Doke *et. al*. in their study did not find any gender difference in attitudes towards Covid-19. Most of the participants from both genders had correct practice regarding Covid-19 prevention with no statistical difference between them. However, in a study in Ethiopia it was discovered that KAP was significantly different between the genders, with the difference being also related to marital status.[19] The difference in gender could be possibly based on the study population and method of data collection. The participants in the web-based studies could be people with more knowledge overall. Most people using the internet and willing to participate in studies online are generally people with higher degrees who are professionals and semi-professionals of both genders. However, in our country as seen in a similar study done by Yoseph that in spite of the increase in female education, men still are more educated and have more access to media information, hence, the possible reason for males having better knowledge. Nevertheless, in spite of the differences in knowledge correct practice was practiced by the majority of the study population.

We also compared the age groups to KAP. Most people in the youngest age group had very good knowledge, which was different from the other two age groups where the majority had good knowledge. Knowledge about COVID was significantly

Table 5: Occupation and KAP

Occupation	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8	Group 9	Group 10	Group 11	Total	p-value
Knowledge													
Very Good	17 (73.9%)	89 (76.1%)	24 (49%)	22 (66.7%)	39 (69.6%)	13 (23.6%)	25 (53.2%)	9 (40.9%)	25 (35.7%)	5 (45.5%)	204(48.2%)	472 (52.1%)	
Good	6 (26.1%)	28 (23.9%)	25 (51%)	11 (33.3%)	17 (30.4%)	38 (69.1%)	20 (42.6%)	13 (59.1%)	43 (61.4%)	6 (54.5%)	211 (49.9%)	418 (46.1%)	
Poor	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	4 (7.3%)	2 (4.3%)	0 (0.0%)	2 (2.9%)	0 (0.0%)	8 (1.9%)	16 (1.8%)	<0.001
Total	23 (2.5%)	117 (12.9%)	49 (5.4%)	33 (3.6%)	56 (6.2%)	55 (6.1%)	47 (5.2%)	22 (2.4%)	70 (7.7%)	11 (1.2%)	423 (46.7%)	906 (100%)	
Attitude													
Positive	18 (78.3%)	63 (53.8%)	33 (67.3%)	20 (60.6%)	29 (51.8%)	29 (52.7%)	33 (70.2%)	15 (68.2%)	28 (40.0%)	8 (72.7%)	227 (53.7%)	503 (55.5%)	
Negative	4 (17.4%)	10 (8.5%)	8 (16.3%)	3 (9.1%)	8 (14.3%)	13 (23.6%)	6 (12.8%)	2 (9.1%)	12 (17.1%)	1 (9.1%)	72 (17.0%)	139 (15.3%)	
Neutral	1 (4.3%)	44 (37.6%)	8 (16.3%)	10 (30.3%)	19 (33.9%)	13 (23.6%)	8 (17.0%)	5 (22.7%)	30 (42.9%)	2 (18.2%)	124 (29.3%)	264 (29.1%)	0.184
Total	23 (2.5%)	117 (12.9%)	49 (5.4%)	33 (3.6%)	56 (6.2%)	55 (6.1%)	47 (5.2%)	22 (2.4%)	70 (7.7%)	11 (1.2%)	423 (46.7%)	906 (100%)	
Practice													
Correct	23 (100%)	117 (100%)	49 (100%)	31 (93.9%)	56 (100%)	53 (96.4%)	47 (100%)	22 (100%)	68 (97.1%)	11 (100%)	416 (98.3%)	893(98.6%)	
Incorrect	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (6.1%)	0 (0.0%)	2 (3.6%)	0 (0.0%)	0 (0.0%)	2 (2.9%)	0 (0.0%)	7 (1.7%)	13 (1.4%)	0.327
Total	23 (2.5%)	117 (12.9%)	49 (5.4%)	33 (3.6%)	56 (6.2%)	55 (6.1%)	47(5.2%)	22(2.4%)	70 (7.7%)	11 (1.2%)	423 (46.7%)	906 (100%)	

Group 1: Legislators, senior officials, managers, Group 2: Professionals, Group 3: Technicians, associate professionals Group 4: Clerk, office assistants, Group 5: Service worker, shop and market sales worker, Group 6: Skilled and semi-skilled agricultural and fishery workers, Group 7: Craft and related trade workers, Group 8: Plant and machine operators and assemblers, Group 9: Elementary occupations, Group 10: Armed forces, 11: Unemployed

different between age groups. People who were above 60 years of age also had good knowledge about COVID in contrast to a study done in India that showed poor knowledge in older people.[20] Similar to our findings, younger age group showed better knowledge regarding COVID in a study done in a tertiary cancer hospital.[21] In our study it was seen that all age groups had mostly positive attitude and correct practice and there was no significant variation between the groups.

As is common knowledge, education has an impact on KAP. This was demonstrated in the study where people with higher qualifications had very good knowledge of the condition, but a higher proportion of people with no formal education had poor knowledge in comparison. The difference in knowledge was guided by the level of education with exceptions being between people who had basic education and secondary level education, and between people with a masters and above and bachelors.[11, 21, 22] Education levels also significantly affected attitudes with people with no formal education showing more negative attitude than the other groups. Nevertheless, practice regarding COVID was not seen to be affected by the level of education in this study.

The various occupations and their KAP towards COVID was also evaluated. Significant inter-occupation variation in KAP was demonstrated. It was seen the majority of professionals had very good knowledge and skilled and semi-skilled agricultural and fishery workers group had the greatest number of people with good knowledge. However, the same group also had more people with poor knowledge in comparison to the other occupational groups. Similarly, a study in Ethiopia showed significant difference in KAP between main occupations.[19] These differences could be due to lack of exposure to information among the workers who need to devote most of their time to work. The other factor that could have been responsible is the educational level or lack of among the various groups, however, the unemployed group had good knowledge, which maybe because this group also included students. Apart from knowledge there was no significant difference among the groups in attitude and practice.

CONCLUSION

This study provided information regarding the KAP of patients attending the outpatient department in a tertiary hospital during the pandemic. Among the ENT patients who participated in the study correct practice was seen in all the groups namely, gender, age, education and occupation. However, there was a difference in knowledge and attitude levels.

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