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Knowledge, Attitudes, and Practices Regarding Coronavirus Disease Among Patients Visiting Eye Hospitals of Province Number 2, Nepal

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Abstract

The present study aims to explore knowledge, attitudes, and practices regarding COVID-19 and level of satisfaction with efforts to halt the further spread of the disease among patients visiting eye hospitals in province number 2, Nepal. All eligible patients (n = 1112) presenting during the study period were interviewed using a validated semistructured questionnaire. The level of awareness was significantly associated with educational attainment and district of residence. Different myths and misconceptions regarding COVID-19 were prevalent. Preventive practices against the pandemic were observed by less than 50% of the participants and it varied significantly by education and the district of residence. Health education and behavior change communication (BCC) campaigns are necessary in the eye hospitals in province 2 to improve the knowledge level, address prevailing negative attitudes, and promote preventive measures against the COVID-19 pandemic. Studies in eye hospitals in other provinces in Nepal are required.

Keywords

attitudes, COVID-19, eye hospitals, knowledge, Nepal, practices

What We Already Know

- COVID-19 has caused considerable morbidity and mortality globally.
- Non-pharmacological interventions are important to control disease spread.

What This Article Adds

- Knowledge, attitude, and practice regarding COVID-19 among patients visiting eye hospitals in a Nepalese province needs improvement.
- Educational sessions should be conducted among these patients.

Introduction

The world is fighting an invisible enemy, the novel corona virus, believed to have originated from Wuhan, China, and spreading rapidly across the globe.[1] The new virus, named as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), is more contagious than previous respiratory syndrome viruses.[2] There is no evidence of transmission of SARS-CoV-2 through the eyes despite its presence (seen through polymerase chain reaction) in tears of patients.

The first case of COVID-19 in Nepal was reported on February 20, 2020, with a steady increase since then. Province number 2 of Nepal shares open borders with India. This may increase vulnerability to COVID-19 due to high influx of Indians with eye-related problems to Nepal. In such a scenario community, knowledge, attitudes, and practices (KAP) toward COVID-19 may be important in controlling the spread of the disease. In Nepal, very few studies have

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been done to identify the KAP toward COVID-19 among the community.

Province number 2 in southeastern Nepal formed after the adoption of the new constitution in 2015 is Nepal's second most populous (5 404 145) and densely populated province and the smallest province by area 9661 km^2 (3730 square miles).

Approximately 21 000 confirmed positive cases have been reported, and the death toll reported so far is around 220. The number of cases per million population in this province is more than 3400.[3] Assessing the KAP of the community helps review and adopt existing strategies against the spread of COVID-19 and also helps avoid practicing self-medication and going to traditional healers for prevention and treatment.

This study aimed to explore patients' KAP regarding COVID-19.

Methods

This quantitative cross-sectional study was carried out in 3 tertiary eye hospitals of province number 2. These hospitals are managed by Nepal Netra Jyoti Sangh (NNJS) and patients get services at an affordable cost. NNJS is a nonprofit service-oriented national nongovernmental organization with a network of 20 eye hospitals and 124 eye care centers.

Nonprobability convenience sampling was used for the selection of respondents. All Nepalese patients older than 18 years (n = 1112) presenting during the study period (May 27, 2020, to June 7, 2020) were approached for a face-to-face interview using validated semistructured anonymous questionnaire ensuring all the safety and precautionary measures of COVID-19 were in place. The questionnaire was first designed in English and then translated to the Nepali language by a bilingual expert.

This study was ethically approved by the Institutional Review Committee of NNJS on May 22, 2020. Prior to obtaining written consent, each respondent was clearly explained in the local language about the background and objectives of the study, time taken to complete the survey, their roles and responsibilities in the study, benefits and risks to them, confidentiality of information they share, and their rights as participants.

Results

Characteristics of the Study Participants

A total of 1112 participants completed the KAP survey. Most participants were from Siraha (46.2%) and Bara (42.6%) districts, while only few were from Rautahat (11.2%) district. These districts are in the plains of the Terai and are mainly agricultural.

Knowledge of Participants on COVID-19

Majority of the participants (97.7%, 95% confidence interval [CI] = 96.8-98.5) reported to have heard about COVID-19. A total of 89.2% (95% CI = 87.3-90.9) participants reported to know about the preventive measures, and 80.7% (95% CI = 78.2-83) participants reported to know about the symptoms of COVID-19. Comparatively, lesser number of participants seemed to know about the chain of infection, World Health Organization recommended handwashing technique, and the incubation period for COVID-19 (Table 1). The Pearson χ^2 test showed a significant difference between the districts for participants hearing about the COVID-19 ($P = .001$) and the participants' knowledge about the preventive measures of COVID-19 ($P = .003$; Table 1). Based on the participants' educational qualification, the knowledge of COVID-19 varied significantly ($P < .05$; Table 1).

Attitude of Participants Toward COVID-19

Myths and misconceptions regarding COVID-19 were assessed through 9 survey items. The results showed that 42.9% of the participants believed that garlic consumption can prevent COVID-19 while 29.4% did not know anything about it. Similarly, 39.4% of the participants possessed the wrong belief that COVID-19 affects only particular age groups. More than half of them (51.2% and 63.9%) expressed their misconception that domestic animals can transmit COVID-19 and drinking hot water/hot bath can prevent the illness, respectively. "Alcohol consumption can prevent COVID-19" was disagreed by 43.5% of the participants and 61.8% of them could not answer the question, "Holding breath for 10+ seconds means a person is free from COVID-19." The perception mosquito bite can transmit COVID-19 was prevalent among 42.7% of the study participants and 39.7% thought that exposure to high temperature can prevent COVID-19 and 35% of them believed that COVID-19 can be slowed down with temperature variations (Table 2). The Pearson χ^2 test showed that all the myths and misconceptions about COVID-19 varied significantly across districts ($P = .001$; Table 2) and educational levels ($P < .05$; Table 2).

Practice of Participants Toward COVID-19

In case of COVID-19 symptoms, 54.3% of the participants would inform the concerned authorities, 46.8% would stay in self-isolation or quarantine, 34.1% would continue to maintain social distancing, 32.1% would avoid mass gatherings, 20.2% would use personal protective equipment (PPE), and 11.2% would avoid unsafe face touch. The practice against COVID-19 varied significantly among participants from different districts ($P = .001$) and educational qualifications ($P < .001$).

For the prevention of COVID-19, 51.9% participants were maintaining social distancing, 49.6% were practicing

Table 1. Knowledge of Participants on COVID-19 by Districts and Education Level.

Knowledge level: reported yes													
Knowledge questions	All participants			Districts				Education					
Statements	n	%	95 % CI	Bara %	Rautahat %	Siraha %	*P*	Illiterate %	Literate %	Primary %	Secondary %	Higher secondary and above %	*P*
K1. Ever heard about COVID-19	1086	97.7	96.80-98.50	96	96	99.6	.001*	95.4	98.5	99.2	98.7	100	.021*
K2. Know the symptoms of COVID-19	897	80.7	78.20-83.00	75.9	77.4	85.8		63.8	80	90.4	95.4	96.2	.001*
K3. Know about the chain of infection of COVID-19	485	43.6	40.80-46.70	36.5	30.6	53.3		22.8	37.6	42.4	68	71.2	.001*
K4. Know the preventive measures of COVID-19	992	89.2	87.30-90.90	91.4	80.6	89.3	.003*	85.8	83.4	92	93.4	96.1	.001*
K5. Know the WHO recommended handwashing steps	554	49.8	46.90-52.80	64.1	54	35.6		44	40.5	53.6	54.9	70.2	.001*
K6. Know about the incubation period of COVID-19	532	47.8	44.70-51.10	49.2	42.7	47.9	.445	29.8	36.6	51.2	67.3	78.8	.001*

Abbreviations: CI, confidence interval; WHO, World Health Organization.
*The difference was statistically significant.

Table 2. Attitude of Participants on COVID-19 by Districts and Education Level.

	Districts				Education					
Statements	Bara %	Rautahat %	Siraha %	*P*	Illiterate %	Literate %	Primary %	Secondary %	Higher secondary and above %	*P*
A1. Garlic consumption can prevent COVID-19										
Don't know	18.8	23.4	40.7	.001	34.6	31.2	24.8	25.5	21.2	.035
No	38.4	12.9	21.4		23.1	22.4	32	32.7	35.6	
Yes	42.8	63.7	37.9		42.2	46.3	43.2	41.8	43.3	
A2. COVID-19 affects only particular age group										
Don't know	9.7	20.2	26.1	.001	28.4	19	12.8	7.2	6.7	.001
No	38.4	33.1	47.7		34.6	40.5	48.8	48.4	40.4	
Yes	51.9	46.8	26.3		37	40.5	39.2	44.4	52.9	
A3. Domestic animals can transmit COVID-19										
Don't know	21.1	25	28.6	.001	35.7	29.3	19.2	18.3	7.7	.001
No	37.3	8.1	15.2		22.3	26.8	21.6	22.9	32.7	
Yes	41.6	66.9	56.2		42.1	43.9	59.2	58.8	59.6	
A4. Mosquito bite can transmit COVID-19										
Don't know	23	43.5	29.2	.001	40.2	32.2	22.4	19.6	19.2	.001
No	35.9	21	28.1		23.6	25.4	25	35.3	41.3	
Yes	41	35.5	42.7		36.2	42.4	52.6	45.1	39.4	
A5. Drinking hot water/hot bath can prevent COVID-19										
Don't know	3	20.2	26.3	.001	23.3	39.5	31.2	26.3	21.2	.001
No	25.9	17.7	16		34.9	41.5	43.2	47.4	55.8	
Yes	71.1	62.1	57.8		17.4	19	25.6	26.3	23.1	
A6. Alcohol consumption can prevent COVID-19										
Don't know	27	50.8	40.9	.001	47.7	39.5	31.2	26.3	21.2	.001
No	47.9	24.2	44.2		34.9	41.5	43.2	47.4	55.8	
Yes	25.1	25	15		17.4	19	25.6	26.3	23.1	
A7. Exposing to high temperature can prevent COVID-19										
Don't know	35.9	66.1	28	.001	50.7	34.6	37.6	18.3	24	.001
No	28.9	16.9	22.8		19	23.4	24.8	37.3	31.7	
Yes	35.2	16.9	49.2		30.3	42	37.6	44.4	44.2	
A8. COVID-19 can be slowed down with temperature variation										
Don't know	38.4	66.1	29	.001	50.9	36.1	36	24.2	25	.001
No	34.2	15.3	25.1		23.1	27.3	25.6	37.3	37.5	
Yes	27.4	18.5	45.9		26	36.6	38.4	46.7	37.5	
A9. Holding breaths for 10+ seconds means free from COVID-19										
Don't know	46	81.5	71.6	.001	66.8	67.3	60.8	52.3	50	.012
No	30	2.4	16		19.6	18	18.4	22.2	26	
Yes	24.1	16.1	12.5		13.7	14.6	20.8	25.5	24	

frequent handwashing, 47.5% avoided mass gatherings, 47.5% avoided unhealthy face touch, 37.8% maintained self-isolation, 37.8% followed home quarantine, and 36.2% used PPE.

Discussion

A large majority (97.7%) of the participants were aware of the COVID-19 disease, the preventive measures (89.2%), and 80.7% were aware of its symptoms. There was a significant variation in the knowledge of preventive measures for COVID-19 depending on the district patients came from. A similar study conducted by Sah et al[4] among cancer patients in Nepal reported higher level of awareness of COVID-19 among illiterate participants. We found a significant variation among the participants' knowledge level based on their educational attainment. The knowledge level was higher among participants with higher qualifications.[4] An online survey conducted in the Nepalese community reported similar findings of increased knowledge of COVID-19 among more educated participants.[5]

Regarding the attitude of participants toward COVID-19, we studied various myths and misconceptions prevalent in the community. The outcome would help the authorities develop a health education plan to create public awareness about containing the spread of the disease.

The practices of the community members were not found to be appropriate and they differed by the districts they came from and their educational qualifications. Regarding preventive practices against COVID-19, less than half of the participants maintained social distance (34.10%), avoided mass gathering, and avoided unhealthy face touch (43.30%). The government and eye hospital management has mandated that every individual visiting eye hospitals must be wearing a face mask. Crowding is a common scenario in eye hospitals close to the border, and patients visiting eye hospitals very frequently visit with complaints such as itchy, watery, and irritated eyes. Unsafe face touches for such patients may be a common phenomenon. Based on this study, in order to control the spread of COVID-19 from eye hospital–based patients and health workers in eye hospitals in Nepal, we would recommend better planning of COVID-19 awareness and behavior change communication among the patients and attendants visiting eye hospitals. Further studies among the community members representing different social strata are recommended to understand the exact practice patterns among the general Nepalese community.

Strengths and Limitation

The strength of this study lies in its large sample recruited amid the pandemic, valid questionnaire, and face to face interview technique for collecting the information. The limitation is its nonprobability convenience sampling technique that may have caused the possibility of selection bias.

Conclusions

The study explored the KAP regarding COVID-19 among patients visiting eye hospitals of province 2, Nepal. The findings of the study recommend carrying out campaigns and awareness program of COVID-19 to improve KAP about COVID-19 and interventions based on evidence in the community. Studies in eye hospitals located in other provinces may be required to understand the situation in the country.

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Supplemental Material

Supplemental material for this article is available online.

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