Knowledge, attitude and practices towards COVID-19 among the parents of pediatric patients in a tertiary care center of mountainous region

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Abstract

Introduction: The disease-causing virus (a member of the corona virus family) was named severe acute respiratory syndrome corona virus 2 (SARS-CoV-2) and the disease was referred to as COVID-19. This disease soon crossed China's boundaries and became a global health emergency. Similar to Middle East respiratory syndrome corona virus (MERS-CoV) and severe acute respiratory syndrome corona virus (SARS-CoV), this virus causes pneumonia, which can be fatal in severe cases. **Materials and Methods:** A cross-sectional study was conducted on 262 parents orguardians of Pediatric patients who visited pediatric OPD of GMC DODA during March-April2021.The participants were given adequate information about theobjectives and purpose of the study and informed consent was taken. Those parents or guardians, who agreed totake part in the study, were assessed in a quiet room adjacent to pediatric OPD. **Results:** A total of 262 parents or guardians ofchildren whovisited the pediatric OPD completed the surveyquestionnaire. The mean age of participants was 32.15(SD = 7.69) years ranging from 18 to 65 years. Of total,60.1% were female and remaining 39.9% were males. **Conclusion:** This study concluded that the participants had goodknowledge, positive attitude and sufficient practice towardsCOVID-19. Knowledge was higher in participants with higherlevel of education. The findings are useful for policy-makersto consider a comprehensive specific group target for healtheducation programs for COVID-19 prevention and control.
Keywords: COVID-19, severe acute respiratory syndrome, children, pneumonia.

Introduction

In December 2019, an infectious viral disease originated from Wuhan city of China. The disease-causing virus (a member of the corona virus family) was named severe acute respiratory syndrome corona virus 2 (SARS-CoV-2) and the disease was referred to as COVID-19. This disease soon crossed China's boundaries and became a global health emergency[1]. Similar to Middle East respiratory syndrome corona virus (MERS-CoV) and severe acute respiratory syndrome corona virus (SARS-CoV), this virus causes pneumonia, which can be fatal in severe cases. SARS-CoV-2 is a single-stranded positive sense RNA virus, which may be responsible for illnesses from the common cold to serious symptoms as previously exhibited by SARS and MERS[2]. COVID-19 has clinical symptoms of cough, fever, malaise, fatigue as well as shortness in breathing. Global concern about the emerging virus has been greatly escalated because of its extraordinary capacity for rapid transmission and because it can be fatal[3].
The infectious agent of COVID-19 has been identified as a corona virus called 2019-nCoV, which is similar to the 2003 SARS-CoV.

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The detection methods confirmed that 2019-nCoV exists in saliva, body fluids, feces, and other samples from patients with COVID-19. The virus spreads through close contact between people, especially through respiratory droplets. In addition, when people touch an object contaminated by infectious droplets and thereafter touch their mouth, nose, or eyes, the virus can be transmitted[6]. China has thus developed a high standard for measures aimed at preventing the spread of the virus. The most effective measures were social isolation to avoid rapid virus propagation, the protection of older people and patients with chronic diseases and low immunity and the implementation of health assistance to COVID-19 patients via the rapid support of health workers from all over China.Due to the nature of treatment, procedures that typically produce aerosols and splatters, which contain large amounts of saliva or blood from patients, thus carry the risk of large-scale transmission of the virus[7]. Therefore, many health departments including dental have asked the staff to adopt strict preventive measures. Such measures include screening patients, only providing emergency treatment, restricting aerosol operation (Nebulization) as much as possible, using extensive protection, and performing environmental disinfection. However, researchers have reported that since some carriers have no symptoms[8], spread of COVID-19 is difficult to control in the overcrowded environment of pediatric department.Many people have received COVID-19-related information through health awareness programs and social media. During the COVID-19 outbreak, people

have received a large volume of information that could lead to confusion, for example, contamination risks during hospital visits from the COVID-19 related announcements by district administration, health care providers and social media. Therefore, it is important to know if any misconception exists among parents/guardians of children, professionals can help improve their knowledge about COVID-19 and educate about preventive measures to decrease spread of disease. Thus, the present study was aimed to evaluate the knowledge, attitudes and Practices toward COVID-19 among the parents/guardians of pediatric patients in this remote mountainous region.

Materials and methods
A cross-sectional study was conducted on 262 parents or guardians of children who visited the pediatric OPD of Government Medical College Doda of Jammu and Kashmir Union Territory in March-April 2021. The participants were given adequate information about the objectives and purpose of the study and informed consent was taken. Those parents or guardians who agreed to take part in the study were assessed in a quiet room adjacent to pediatric OPD.

KAP questionnaire
The questionnaire consisted of two parts. The first part assessed demographic characteristics including age, gender, marital status, level of education, occupation, and place of residence. The second part consisted of knowledge, attitude and practice towards COVID-19. The questionnaire was developed based on the literature. Knowledge section had 23 questions, and 5 questions were for each attitude and practice part, respectively. For the 23 items that were related to the knowledge, the maximum attainable score was '46' and the minimum score was '0'. The correct answer was given 2 -point score, "not know" were given 1 point score, and wrong answers were given 0 score.
A five-point Likert scale was used to measure attitude. Answer evaluating attitude towards COVID-19 had five option Likert scale ranging from strongly agree to strongly disagree. The total score ranged from 5 to 25. In practice items, good practice was assigned 1 - point score and bad practice was assigned 0 score.
Preparing the KAP questionnaire for data collection
The following steps were taken by the authors on the original questions collected from the literature. First, the original questions were independently translated into common local Language Urdu by two faculty members in the field of health followed by a joint discussion to combine the two independent versions into a single concept. Then this translated version back warded to original language by two Urdu-English bilingual persons. A pilot study was

performed on 40 individuals, to assess their responses to the questions and identify possible mistakes and difficulties resulting from the translation. The cross-cultural adaptation of the questionnaire was performed during this stage to achieve semantic equivalence (equivalence between words), idiomatic equivalence (equivalent expressions or items needing substitution). The internal consistency of the questionnaire was assessed by Cronbach's alpha > 0.70. Specialists dealing with infectious diseases and one epidemiologist assessed the validity of the questionnaire. Regarding content validity, the experts requested to review the questionnaire and assess each item based on 4 criteria including relevancy, clarity, simplicity, and necessity. Content Validity Ratio (CVR) was calculated based on the responses to the necessity of questions. According to Lawshe's report, for 10 professionals, minimum required CVR for each item is 0.62. Content Validity Index (CVI) was used based on Waltz and Basel content validity index. Minimal required amount of CVI for each item was 0.79. The CVI and CVR were calculated for eachitem. Minimum and maximum CVR were 0.80 and 1, respectively and for all items, so CVR was higher than acceptance level (0.62). The minimum and maximum of total CVR for whole questionnaire was 0.80 and 0.96, respectively. All items were satisfactory in terms of CVI(higher than 0.79) and no items were removed. Total CVI(average of CVIs of all items) was 0.91.

Statistical analysis
The categorical variables were presented as frequencies and percentages and continuous variables were shown as Mean ± Standard Deviation. To compare KAP scores and its scales, T-test or one way of ANOVA were used. P-value < 0.05 considered statistically significant. Allanalyses were performed in SPSS version 18.0 (SPSS Inc,Chicago, IL, USA).

Results
A total of 262 parents or guardians of children who visited the pediatric OPD completed the survey questionnaire. The mean age of participants was 32.15(SD = 7.69) yrs ranging from 18 to 65 years. Of total, 60.1% were female and remaining were males.
Of total, 75.38% were married, 36.26% were matriculate and 30.73% were graduate. Regarding occupation, 220 subjects (83.96%) were unemployed. Among the participants, 163 subjects (62.20%) had rural residency. The mean score of knowledge was 37.14 (SD = 4.87, ranged from 10-45). The majority of participants (84%) had correct information about the symptoms of COVID-19 (Table 1). The mean score of attitude was 21.07 (SD = 3.04) from a maximum possible score of 25 (Table 2). The mean score of practice was 4.22 (SD = 0.83) from a maximum possible score of 5 (Table 3). The total KAP score ranged from 36 to 74 with a mean value of 62.43(SD = 6.76).

Table 1: Parents Knowledge toward COVID-19 Symptoms and Prevention Strategy

S.No	Knowledge Questions	True, N (%)	Not know, N (%)	False, N (%)
1	The common clinical symptoms of COVID-19 in children are fever, fatigue, dry cough, diarrhea, skin rash and muscle aches.	220(84)	4(1.5)	38(14.5)
2	Unlike flu, purulent nose, runny nose and sneezing are less common in children infected with the COVID-19 virus.	174(66.6)	15(5.7)	72(27.7)
3	There is currently no effective treatment for COVID -19, but early supportive treatment can help cure of COVID-19 in children.	223(85.1)	13(5)	26(9.9)
4	Disposable gloves can be effective to prevent COVID-19 virus infection.	200(76.3)	8(3.1)	54(20.6)
5	COVID-19 is deadly in few cases.	209(80)	10(3.8)	43(16.2)
6	COVID-19 symptoms appear within 2-14 days	229(87.4)	18(6.9)	15(5.7)
7	The flu vaccine is sufficient to prevent COVID-19	226(86.5)	18(6.9)	17(6.7)
8	Not everyone with COVID-19 will progress to severe disease. Only older people whohave chronic diseases and obese patients are more likely to get the severe disease.	176(67.4)	18(7.1)	67(25.6)
9	Eating or contacting wild animals can lead to infection with the corona virus.	187(71.4)	26(9.9)	49(18.7)
10	COVID-19 is thought to have originated from bats.	224(85.7)	19(7.3)	18(7.1)
11	COVID-19 can be transmitted through airway, contact, feces and mouth.	17(6.7)	8(3.1)	236(90.3)
12	If the mask is rotten, touching it with your hands will not cause infection with corona virus.	146(55.7)	11(4.4)	104(39.9)
13	People infected with COVID-19 cannot transmit the virus to others if they do not have fever.	192(73.3)	16(6.3)	56(20.4)
14	The COVID-19 virus spread by respiratory droplets of infected children.	240(91.6%)	6(2.5%)	16(5.9%)

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15	Ordinary residents can wear general medical masks to prevent COVID-19 virus infection.	156(59.5%)	15(5.5%)	91(34.9%)
16	Children and adults do not need to take physical distance to prevent Corona virus infection.	184(70.4%)	4(1.5%)	73(28.1%)
17	To prevent COVID-19 infection, people should avoid going to crowded places suchas train stations and public transportation.	252(96.2%)	1(0.2%)	9(3.6%)
18	Isolation and treating people infected with the Corona virus are effective ways to reduce the spread of the virus.	249(95%)	6(2.5%)	6(2.5%)
19	People who come in contact with a person infected with the Corona virus should be quarantined immediately.	252(96.4%)	5(1.9%)	4(1.7%)
20	During the outbreak, eating meat which is well cooked is safe.	229(87.2%)	9(3.4%)	25(9.4%)
21	Patients should share their recent travel dates with health care providers	252(96.2%)	1(0.4%)	9(3.4%)
22	Disinfecting equipment and workplaces should be done at least once a day.	240(91.4%)	5(2.1%)	17(6.5%)
23	Washing your hands with soap and water can help prevent COVID-19 transmission.	258(98.5%)	4(1.5%)	0(0)

Table 2: Parent's Attitude toward COVID-19 Symptoms and Prevention Strategy

S.No	Attitude items	Agree	Strongly Agree
1	COVID-19 will be successfully controlled	(41.4%)	(32.1%)
2	We can win the battle against Corona virus	(37.4%)	(38%)
3	COVID-19 causes pneumonia, respiratory failure and death	(34.2%)	(47.7%)
4	Preventive behaviors are the only effective action for COVID-19.	(37.4%)	(48.1%)
5	Hand hygiene, covering the nose and mouth when coughing, and preventing contact with the patient can help prevent COVID-19 transmission.	(24.2%)	(72.3%)

Table 3: Parents or Guardian Practice toward COVID-19 Symptoms and Prevention Strategy

S.No	Practices Questions	Right option, N (%)
1	In recent days, have you ever worn a mask when you leave home?	216 (82.4%)
2	Have you been to any crowded place in recent days?	91(34.9%)
3	Did you observe a distance of one or one and a half meters with others while waiting for the visit today?	239 (90.8%)
4	Do you wash your hands with soap and water before eating?	258 (98.7%)
5	Do you use any possible ways to prevent spreading virus during sneezing or coughing at home?	235 (89.9%)

Discussion

This cross-sectional study was performed to examine KAP survey towards COVID -19 among parent's orguardians of Pediatric patients who visited pediatric OPD of Government Medical College, DODA, UT of J&K, India. The results showed that knowledge had a significant and positive correlation with attitude and practice. The present study compared the age groups of participants towards the scales of KAP and found that participants aged 41-50 had the highest knowledge, participants aged 18-30 years had more positive attitude and participants aged 31-40 years had significantly most positive practice towards COVID-19. In a KAP survey, Rugarabamu et al[5]., showed that knowledge was higher in females and age group of 30-49yrs similar to our study. The knowledge increased by level of education such that graduate participants had the highest and those who educated up to primary level had the lowest knowledge that is similar to our study. Azlan etal[7]., found higher level of knowledge among females, people older than 50 years and residing in central Malaysia.Tomar et al[8]., reported that mean score of knowledge was 11.36 ± 1.2 (range 0 -13) and 80.64% had correct answers. In a KAP study of Maheshwari et al[9].,on medical students, the majority of the students (86.7%) hadgood knowledge about the main symptoms of COVID -19 and 92.4% of the students knew that early treatment can help recover from the infection. They showed that the knowledge scores of the females were slightly higher than males, although the difference was not significant. Azlanet al[7]., found that majority of participants agree that COVID-19 would be successfully controlled. Theyfound that about all of participants had confidence to winthe battle against COVID-19 and was associated with agegroup and occupation. In a Chinese survey with highpositive attitude, the authors concluded that the positive attitudes are result of drastic measures taken by the Chinese government in mitigating the spread of the virus.

In the present study, majority of populationhad not been in apopulated place recently. Most of the participants believe that COVID-19 canbe successfully controlled. They resulted that age, gender, marital status, area of residence, education, and occupation had not a significant effect on attitude level where as marital status, education and geographical area had a strong impact on practices. In the present study, with a different question found that approximately three fourth agreed that COVID -19 would be controlled successfully, they can win the battle against COVID-19 virus; pneumonia, respiratory failure and death are the result of severe COVID-19 infection and hand hygiene, covering the nose and mouth while coughing, preventing contact with the patient can help prevent COVID-19 transmission. Regarding the attitude scale of KAP, the present study resulted that singles and female participants had more positive attitude compared to their counterparts.

Conclusion

This study concluded that the participants had good knowledge, positive attitude and sufficient practice towards COVID-19. Knowledge was higher in participant with higher level of education. The positive attitude might have attributed to positive practice with majority reporting to had not visited populated places and wore masks whenever they go out of their residence.

The findings are useful for policy-makersto consider a comprehensive specific group target for health education programs for COVID-19 prevention and control.

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