

Knowledge, Attitude, and Practices Regarding COVID-19 among Patients Attending the Dermatology Outpatient Department: A Cross-Sectional Study

Abstract

Background: The current trend in the declining rates of new COVID-19 case detection may be attributed to better awareness and more robust screening and testing programs all across the country. Although there have been many studies on the impact of COVID-19 in India and its management, there are no studies currently regarding the knowledge, attitudes, and practices (KAP) among the community. **Objective:** This study aims to study the KAP regarding COVID-19 attending the dermatology outpatient department in a tertiary care center. **Materials and Methods:** A cross-sectional, descriptive study was conducted on 202 patients attending the dermatology outpatient department. After taking consent, the enrolled patients were directed to complete the COVID-19 KAP questionnaire, which was adapted from a previous study, and was translated into Hindi. **Results:** Our study showed a good knowledge score of 8.01 ± 1.94 for males and 7.71 ± 2.4 for females. The knowledge scores were similar in both genders and across all age groups and employment groups. The knowledge scores were significantly higher in those with higher education levels. **Conclusion:** Male gender, with higher education and a higher COVID-19 knowledge score, was also associated with a significantly more positive attitude. Females, with higher education and a higher COVID-19 knowledge score, were also found to have better protective measures against COVID-19.

Keywords: COVID-19, dermatology, knowledge questionnaire, [Questionnaire enclosed below]

Introduction

The coronavirus disease-2019 (COVID-19) pandemic has seen rampant growth in India, ever since the first case was detected in Kerala on January 30, 2020. The current case load stands at over 3 crores, as on August 29, 2020.^[1-3] Adequate knowledge, attitudes, and practices (KAP) of the citizens play a key role in controlling the spread of the disease. Hence, we wished to investigate the KAP regarding COVID-19 among patients attending the dermatology outpatient department at our center, so that adequate measures may be taken to improve the awareness and adherence to precautionary measures among the community.

Materials and Methods

A cross-sectional descriptive study was conducted on 202 patients above the age of 18 years, who attended the dermatology and Sexually Transmitted

Diseases (STD) outpatient department for consultation, for 2 months, from January 1, 2021, to February 28, 2021, were enrolled in the study. The institutional ethics committee approval was taken before starting the study.

After taking consent, the enrolled patients were directed to complete the COVID-19 knowledge questionnaire, which was adapted from a previous study conducted in China, and was translated into Hindi. This process involved translation, committee review, back-translation, review, pretesting, and final revision.

Translation

Four bilingual individuals independently prepared a Hindi translation of the original English questionnaire. The group was instructed to make a semantic equivalent of the original questionnaire and not merely a literal Hindi translation, keeping in mind the education level of the target population (about

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12 years of elementary schooling). The Hindi translation was reviewed by a committee which included four of the authors (RS, RC, SS, and SS). The resulting finalized Hindi adaptation was then back-translated into English individually by four bilingual nonmedical individuals. All the translators were unaware of the underlying concept and intent of the questionnaire. Two of the authors (RS and SS) reviewed the back-translations. Those questions which were not semantically equivalent to the original questionnaire were retranslated and back-translated again until equivalence was attained.

Pretesting

The final version of the questionnaire was subjected to pretesting in 20 patients who were randomly recruited from the dermatology outpatient of Lady Hardinge Medical College, New Delhi. To determine the correct interpretation of each question, each patient was asked to justify her answers to the questions and to explain in detail what each question meant to her “in her own words.” If more than one patient (>5%) misunderstood the semantic definition of a question or found it difficult to read, it was designated as unreadable.

Final revision

Using the comments and feedback from the pilot study, the unreadable questions were revised and then back-translated. These questions were resubmitted to the authors (RS and SS) for approval and the final questionnaire was presented again to the patients to ensure they were readable.

Study instrument

The questionnaire consisted of three parts: demographics, dermatological condition, and KAP. Demographic variables included age, gender, education, and occupation. The diagnostic section included the dermatological diagnosis of the patients (infectious, papulosquamous, granulomatous, vesiculobullous, allergic, hair disorder, nail disorder, and neoplastic).

The questionnaire had 12 questions [Table 1], of which four were regarding clinical presentations (K1-K4), three regarding transmission routes (K5-K7), and five regarding prevention and control (K8-K12) of COVID-19. Participants were given “true,” “false,” or “I don’t know” response options to these items. A correct answer was assigned one point and an incorrect/unknown answer was assigned zero points. The total knowledge score ranged from 0 to 12, with a higher score denoting a better knowledge of COVID-19.

Attitudes toward COVID-19 were measured by two questions [A1-A2, Table 1] about the agreement on the final control of COVID-19 and the confidence in winning the battle against COVID-19. The assessment of respondents’ practices was composed of two behaviors [P1-P3, Table 1]: maintaining social distancing and wearing a mask when going out in recent days.

Table 1: Demographic characteristics with coronavirus disease-2019 knowledge score

	Number of participants	Knowledge score (mean±SD)	P
Gender			
Male	111	8.01±1.94	0.287
Female	91	7.71±2.04	
Age group (years)			
≤29	104	7.86±1.91	0.379
30+	98	7.90±2.07	
Education			
Illiterate	18	8.61±1.19	0.003
Up to 5 th class	28	6.75±2.41	
6 th -12 th class	94	7.73±2.07	
Graduate	53	8.40±1.68	
Postgraduate	9	8.33±0.86	
Occupation			
Employed	149	8.03±1.91	0.313
Unemployed	53	7.45±2.17	

Statistical analysis

The data were analyzed using SPSS 20.0 (IBM Co, Armonk, NY, USA). The statistical analysis comprised calculating means and proportions. Chi-square was used to test the statistical association of demographic factors with attitude and practice related to COVID-19. Mann–Whitney *U* test (Kruskal–Wallis test wherever more than two categories) was conducted to compare the means between demographic factors and knowledge score. The level of significance was considered $P < 0.05$.

Internal consistency of the knowledge measures was tested using a reliability test where Cronbach’s alpha coefficient aided in determining the reliability of the variables.

Results

A total of 202 patients participated in our study, with a mean age of 33.98 ± 13.28 years, consisting of 111 males (54.9%) and 91 females (45.1%) [Table 1]. The number of participants in the age group below and above 30 years of age was almost equal (104 and 98, respectively). Majority of the patients had studied up to 6th–12th standard (46.5%), and were employed (73.7%). Sixty-six patients had infectious skin diseases such as dermatophytoses and scabies, 41 patients had papulosquamous conditions such as psoriasis and lichen planus, 35 patients had hair-related disorders, 31 patients had acne vulgaris, 20 had eczematous dermatitis, and nine patients had bullous dermatoses.

The knowledge scores were similar in both males and females (8.01 ± 1.94 and 7.71 ± 2.04 , respectively, $P = 0.287$), and across age groups below and above 30 years (7.86 ± 1.91 and 7.90 ± 2.07 , $P = 0.379$), as well as between employed and unemployed individuals. The knowledge scores were significantly higher in those with higher education (P value being 0.003).

While the attitudes of the participants regarding the final success in controlling COVID-19 were largely positive, a significantly higher percentage was seen in males, compared to females ($P < 0.05$) [Table 2]. Higher education and a higher COVID-19 knowledge score were also associated with a significantly more positive attitude ($P < 0.01$). There was no significant difference among the attitudes between the employed and unemployed groups.

A significantly higher percentage of females wore masks (76.9% vs. 68.5%, $P < 0.01$) and maintained social distancing, compared to males (91.2% vs. 75.7%, $P < 0.01$) [Table 3]. Those with higher education and a higher COVID-19 knowledge score were also found to have better protective measures against COVID-19 ($P < 0.01$ and <0.001 , respectively). Occupation did not affect COVID-19-related preventive practices.

There was no significant association of the KAP with the dermatological diagnosis.

Discussion

Coronavirus disease-2019, known as COVID-19 is a pandemic caused by the novel human coronavirus; severe acute respiratory syndrome-coronavirus-2, an enveloped single-stranded RNA virus, previously known as 2019-nCov. It was first announced in December 2019, among patients with viral pneumonia in Wuhan city, China to become the most important health problem worldwide. Due to the rapid spread to many countries, the WHO declared it a “Public Health Emergency of International Concern” on January 30, 2020. Later, due to the continual rise in the number of affected countries, cases, and fatalities, the WHO declared COVID-19 as a global pandemic on March 11, 2020.^[4]

Table 2: Attitude toward coronavirus disease-2019 by demographic variables

	Attitudes, <i>n</i> (%) or mean±SD				
	A1: Final success in controlling			A2: Confidence of winning	
	Agree	Disagree	Don't know	Yes	No
Gender					
Male	71 (64)	24 (21.6)	16 (14.4)	79 (71.2)	32 (28.8)
Female	42 (46.2)	31 (34.1)	18 (19.8)*	62 (68.1)	29 (31.9)
Age group (years)					
≤29	57 (54.8)	27 (26)	20 (19.2)	75 (72.1)	29 (27.9)
30+	56 (57.1)	28 (28.5)	14 (14.4)	66 (67.3)	32 (32.7)
Education					
Illiterate + up to 5 th class	22 (47.8)	12 (26.1)	12 (26.1)	23 (50)	23 (50)
6 th postgraduate	91 (58.3)	43 (27.6)	22 (14.1)	118 (75.6)	38 (24.4)***
Occupation					
Employed	89 (59.7)	40 (26.8)	20 (13.4)	108 (72.5)	41 (27.5)
Unemployed	24 (45.3)	15 (28.3)	14 (26.4)	33 (62.3)	20 (37.7)
COVID-19 knowledge score	8.12±1.66	7.16±2.35	8.24±2.11*	8.16±1.76	7.23±2.32**

* $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$. COVID-19: Coronavirus disease-2019, SD: Standard deviation

Table 3: Practice toward coronavirus disease-2019 by demographic variables

	Practices, <i>n</i> (%) or mean±SD			
	P1: Practicing social distancing		P2: Wearing a mask	
	Yes	No	Yes	No
Gender				
Male	76 (68.5)	35 (31.5)	84 (75.7)	27 (24.3)
Female	70 (76.9)	21 (23.1)	83 (91.2)	8 (8.8)**
Age group (years)				
≤29	71 (68.3)	33 (31.7)	89 (85.6)	15 (14.4)
30+	75 (76.5)	23 (23.5)	78 (79.6)	20 (20.4)
Education				
Illiterate + up to 5 th class	35 (76.1)	11 (23.9)	31 (67.4)	15 (32.6)
6 th postgraduate	111 (71.2)	45 (28.8)	136 (87.2)	20 (12.8)**
Occupation				
Employed	105 (70.5)	44 (29.5)	119 (79.9)	30 (20.1)
Unemployed	41 (77.4)	12 (22.6)	48 (90.6)	5 (9.4)
COVID-19 knowledge score	7.74±1.94	8.23±2.09	8.29±1.68)	5.91±2.20***

** $P < 0.01$, *** $P < 0.001$. COVID-19: Coronavirus disease-2019, SD: Standard deviation

The first case of COVID-19 in India was detected in Kerala on January 30, 2020. The current case load stands at over 3.3 crores, as on September 24, 2021, which is currently the highest in Asia.^[5]

The WHO recommends the prevention of spread by regular hand washing, social distancing, and respiratory hygiene (covering mouth and nose while coughing or sneezing).^[6]

Given the high mortality rates of the disease and the unknown efficacy of the vaccine, preventive measures are essential to control the spread of the virus. Hence, it is important for the public, as well as its adherence to the various control, to know the level of awareness measures. Our study showed a good knowledge score of 8.01 ± 1.94 for males and 7.71 ± 2.4 for females, which and which was similar to other studies conducted in China, Saudi Arabia and Malaysia. This may be attributed to the awareness spread.^[1,7,8] Knowledge scores also showed good through television, news, and various media platforms. A positive correlation between education levels and employment, with the knowledge scores, further supports this claim.

While the attitudes of the participants regarding the final success in controlling COVID-19 were largely positive, more positive attitudes were seen in males. However, these results contrast with other findings that suggest people tend to express negative emotions, such as anxiety and panic, during a pandemic which could affect their attitude. The educated individuals and those with higher knowledge scores showed a more positive attitude. This highlights the importance of targeting the less educated sections of society, to enable them to have more positive attitudes.

The practices regarding wearing masks and social distancing were followed by only two-thirds of the participants. This was significantly higher in males, those with lower education and lower knowledge scores. The lack of information, appropriate utilization of masks, and lack of social distancing may be a contributing factor to the spread of the virus. Therefore, it is imperative to target this section of the population, to arrest the spread of the virus.

While many steps have been taken by the government to create awareness about COVID-19, the level of KAP among the general public has not been studied in India.

A cross-sectional study conducted in Saudi Arabia on 3,388 participants showed a mean COVID-19 knowledge score was 17.96, indicating a high level of knowledge (the range was from 0 to 22). However, the results showed that men had less knowledge, less optimistic attitudes, and less good practice toward COVID-19 than women. The authors also found that older adults are likely to have better knowledge and practices than younger people.^[7]

Another study conducted in Ethiopia showed a mean knowledge score of 8.73 (standard deviation [SD] = 2.64),

where only 42.9% (95% confidence interval: 37.5%–48%) of the study participants were knowledgeable. About half of the study participants reported that they had gone to crowded places in recent days, did not wear a face mask when leaving home, and practiced preventive measures given by local health authorities. Knowledge score was statistically significantly associated with gender, age, and educational status of the study participants, whereas attitude and practices were statistically significantly associated with educational status and knowledge of participants.^[9]

A similar study conducted in Malaysia showed an overall correct rate of 80.5% on the knowledge questionnaire and good attitudes and preventive practices. However, wearing face masks was less common (51.2%). The results highlighted the importance of consistent messaging from health authorities and the government as well as the need for tailored health education programs to improve levels of KAP.^[8]

In India, a cross-sectional study was conducted among 212 patients with Type 1 diabetes mellitus. Most (74%) had an average knowledge score (mean \pm 1 SD). Higher educational status, urban residence, and being married were associated with better knowledge scores; however, only urban residence was found to be statistically significant on multinomial logistic regression.^[10]

To the best of our knowledge, there have been no studies conducted on the KAP regarding COVID-19 among the general public in India. The results of our study emphasize the need for primary prevention, aimed at improving the KAP toward COVID-19, which targets the uneducated sections of the population.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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Questionnaire

Name:

Age/Sex:

Education:

Occupation:

Diagnosis:

Questions	Knowledge		
	Yes	No	Don't know
The main clinical symptoms of COVID-19 are fever, fatigue, dry cough, and myalgia	Yes	No	Don't know
Unlike the common cold, stuffy nose, runny nose, and sneezing are less common in persons infected with the COVID-19 virus	Yes	No	Don't know
There currently is no effective cure for COVID-19, but early symptomatic and supportive treatment can help most patients recover from the infection	Yes	No	Don't know
Not all persons with COVID-19 will develop severe cases. Only those who are elderly, have chronic illnesses, and are obese are more likely to be severe cases	Yes	No	Don't know
Eating or contacting wild animals would result in the infection by the COVID-19 virus	Yes	No	Don't know
Persons with COVID-19 cannot infect the virus others when a fever is not present	Yes	No	Don't know
The COVID-19 virus spreads through respiratory droplets of infected individuals	Yes	No	Don't know
Ordinary residents can wear general medical masks to prevent the infection by the COVID-19 virus	Yes	No	Don't know
It is not necessary for children and young adults to take measures to prevent the infection by the COVID-19 virus	Yes	No	Don't know
To prevent the infection by COVID-19, individuals should avoid going to crowded places such as train stations and avoid taking public transportations	Yes	No	Don't know
Isolation and treatment of people who are infected with the COVID-19 virus are effective ways to reduce the spread of the virus	Yes	No	Don't know
People who have contact with someone infected with the COVID-19 virus should be immediately isolated in a proper place. In general, the observation period is 14 days	Yes	No	Don't know
Attitudes			
Do you agree that COVID-19 will finally be successfully controlled?	Strongly agree Agree Neutral Disagree Strongly disagree		
Do you have confidence that India can win the battle against the COVID-19 virus	Strongly agree Agree Neutral Disagree Strongly disagree		
Practices			
In recent days, have you been practicing social distancing?	Yes	No	
In recent days, have you worn a mask when leaving home?	Yes	No	

COVID-19: Coronavirus disease-2019

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