Knowledge, attitude and practice regarding covid-19 among the out patients attending ophthalmology department at a tertiary eye care hospital in North Karnataka.

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Abstract

Purpose: To assess the knowledge, attitude and practice regarding COVID-19 among the population of North Karnataka.

Methods: Cross sectional study among the outpatients and attenders attending a tertiary eye care hospital in North Karnataka. A questionnaire regarding knowledge, attitude and practice patterns of COVID-19 was presented to the participants and their responses were analysed. Numbers and percentages and Chi-square test was used.

Results: Knowledge assessment among participants was found to be adequate in 169 (51.36%) participants. 65.65% had satisfactory practices in order to reduce the risk of contracting the disease. The attitude of the patients was also found to be satisfactory. However, the knowledge (19.46%), and practice (34.34%) regarding the ophthalmology related modes of spread of the tears like conjunctivitis and tear film was unsatisfactory.

Conclusion: As ophthalmologists it is important to create more awareness about preventing the spread of the disease through conjunctivitis and tear film.

Key words: COVID-19, tears, conjunctivitis, knowledge, attitude, practice

Introduction

The novel Corona virus (2019-nCoV, officially known as SARS-CoV-2 or COVID-19), first reported in December 2019, was declared as a global pandemic by the World Health Organisation (WHO) on 12th March 2020[1,2]. The disease causes respiratory illness with symptoms such as dry cough, fever, fatigue, slight dyspnoea, headache, conjunctivitis and gastrointestinal complaints[3,4]. The success of population in controlling this epidemic, is generally affected by their knowledge, attitude, and practices (KAP) concerning COVID-19 as was seen in case of SARS[5,6,7].

The aim of the study is to assess KAP about COVID-19 including the ophthalmic modes of spread which are usually ignored.

Methods:

The study was conducted among the out patients and attenders coming to the department of Ophthalmology at a tertiary eye care hospital in North Karnataka. The study design was cross sectional study. The sample size was calculated to be 329. At 95% confidence interval and 69% prevalence by using open epi software version -2.3.1 by the formula,

N = [DEFF*Np(1-p)]

[(d2/Z2 1-alpha/2 *(N-1)+P*(1-p)]

Ethical committee clearance was obtained from the Institutional ethical committee. A questionnaire was used to assess the knowledge, attitude and practice among the study participants from June 15 to July 30, 2020. The questionnaire consisted of 14 questions pertaining to knowledge, 9 questions concerned with the attitude and 9 questions related to the practice. A

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pilot study was done to assess the understandability of the questions and necessary modifications were made. The questionnaire took around 15 minutes to be answered. Along with this, the demographic details of the study participants were also collected.

Knowledge: The knowledge questionnaire consisted of 14 questions. Question K1-K3 (Knowledge 1 questionnaire to knowledge 3 questionnaire) concerning the characteristics of COVID-19, K4 – K6 about the symptoms of COVID-19, K7, K8 concerning the ophthalmic aspects of COVID-19, K9-K14 about the prevalence, transmissibility and prevention of COVID-19. Correct answers were given a score of 1, no opinion was given a score of 2 and no was given a score of 3. Score less than or equal to 17 was considered as adequate knowledge and score more than 17 was considered as inadequate knowledge.

Attitude: To evaluate the attitude of the participants towards COVID-19, 9 questions were asked and their responses were graded according to the Likert scale as strongly agree, agree, neutral, disagree, strongly disagree.

Practice: 9 questions were based on the practice preferences of the participants. A score of 1 was given for the correct response, 2 for no opinion and 3 for answer no. A score of 13 or less was considered to have adequate practice preferences whereas a score more than 13 was considered inadequate practice preferences.

Statistical Analysis:

All the statistical analyses were performed by using SPSS software. Data was entered in Microsoft Excel. Numbers and percentages were used for qualitative data. Mean and standard deviation were used for qualitative data. Chi-square test was used for further analysis. Univariate followed by multivariate linear regression analyses were used to determine the relation between variables and KAP in our study in which were nominated by backward stepwise method. Unstandardized regression coefficients (95%) was for evaluating correlation among variables with KAP towards COVID-19. The statistical significance level was set at $p < 0.05$.

Questionnaire

Knowledge (K1 - K14)

1. Are you aware of the COVID -19 pandemic ? Yes/ No/No opinion
2. Is COVID -19 contagious? Yes/No/No opinion
3. How long is the incubation period of the disease? 2-5 days/3-14 days/ No opinion
4. Is fever a symptom of COVID-19? Yes/No/No opinion
5. Is cough a symptom of COVID-19? Yes/No/No opinion
6. Is sore throat a symptom of COVID-19? Yes/No/ No opinion
7. Is conjunctivitis a symptom of COVID-19? Yes/ No/No opinion
8. Can the disease spread through tears ? Yes/No/ No opinion
9. Are you aware of the prevalence of COVID-19 cases in Bagalkot district? Yes/No/No opinion
10. Can the disease be transmitted through cough/ sneeze/droplet spread? Yes/No/No opinion
11. Can the disease be transmitted directly through contact with infected surfaces? Yes/No/No opinion
12. Would washing hands with water and soap eliminate the cause of the disease? Yes/No/No opinion
13. Are you aware of the importance of a face mask? Yes/No/No opinion
14. What was your source of knowledge about COVID-19? Radio/Newspaper/Healthcare worker

Attitude(A1-A9):

1. Early treatment of COVID-19 can improve treatment and outcomes. Strongly agree/ agree/ neutral/disagree/strongly disagree
2. COVID-19 can be treated at home. Strongly agree/ agree/ neutral/disagree/strongly disagree
3. Awareness regarding COVID-19 disease in the society is sufficient.

   Strongly agree/ agree/ neutral/disagree/strongly disagree
4. COVID-19 results in death in all cases. Strongly agree/ agree/ neutral/disagree/strongly disagree
5. Can be transmitted through pets. Strongly agree/ agree/ neutral/disagree/strongly disagree
6. Authorities should restrict travel to and from COVID-19 containment areas to prevent disease transmission. Strongly agree/ agree/ neutral/ disagree/strongly disagree
7. We should quarantine Covid-19 patients in special designated hospitals. Strongly agree/ agree/ neutral/disagree/strongly disagree
8. We should restrict access to religious rites, shrines and mosques. Strongly agree/ agree/ neutral/disagree/strongly disagree

9. We should restrict social gatherings. Strongly agree/ agree/ neutral/disagree/strongly disagree

Practice (P1-P9)

In order to avoid contracting the disease

1. I avoid rubbing and touching my eyes. Yes/No/No opinion
2. I avoid going out of my house unnecessarily. Yes/ No/No opinion
3. I avoid handshakes. Yes/No/No opinion
4. I frequently wash my hands. Yes/No/No opinion
5. I use face masks strictly. Yes/No/No opinion
6. I avoid going to hospitals except for emergencies. Yes/No/No opinion
7. I use herbal and traditional medicine. Yes/No/No opinion
8. I use disinfectant and solutions. Yes/No/No opinion
9. I pay more attention to personal hygiene. Yes/No/ No opinion

Results

The responses from 329 participants were collected and analysed. Their demographic details were tabulated. The mean age of the patients was 48.98784 with a standard deviation of 19.6582. The knowledge and practice preferences were compared based on the age and gender.

Table 1 : Comparison of knowledge and practice among different gender and age groups of study participants

	KNOWLEDGE		PRACTICE	
	Knowledge Adequate (Score</= 17)	Knowledge Inadequate (Score>17)	Practice Adequate (Score</=13)	Practice Inadequate (Score>13)
GENDER				
Male (n=177)	86	91	107	70
Female (n=152	83	69	109	43
AGE				
10-20 (n=38)	23	15	37	1
20-30 (n=28)	18	10	28	0
30-40 (n= 39)	24	15	39	0
40-50(n= 53)	35	18	52	1
50-60(n=59)	35	24	57	2
60-709(n=55)	17	38	3	52
70-80(n=48)	13	35	0	48
80-90(n=9)	4	5	0	9

n = number of participants in each section

The knowledge level of study participants showed no significant difference (p<0.2775)with respect to the gender of the participants at a Pearson Chi-square value of 1.185. The male participants of the study showed significantly better practice when compared to their female counterparts to avoid risk of contracting the disease(p = 0.0320 at a Pearson Chi square value of 4.597)

The knowledge level of the study participants with respect to age showed a highly significant level of difference (p= 0.00004941) at Pearson Chi-square test value 31.54. Similarly the practice patterns of the study participants showed a significant difference (0.0000001) at a Pearson Chi square test value of 29.92. It was seen that the knowledge and practice patterns of the study participants proved to be inadequate as their age increased.

Table 2: Comparison of knowledge and practice among different education and occupations of study participants

	Knowledge		Practice	
	Knowledge Adequate (Score</= 17)	Knowledge Inadequate (Score>17)	Practice Adequate (Score</=13)	Practice Inadequate (Score>13)
Education				
Uneducated (n=110)	51	59	46	64
1st - 5 th std (n=38)	15	23	31	7
5th - 10th std (n=108)	55	53	71	37
12th std, Diploma, degree (n=73)	50	23	67	6
Occupation				
Student (n=55)	39	16	48	43
Agriculture (n=93)	41	52	50	31
Labourer (n=80)	42	38	49	3
Business (n=36)	20	16	28	8
Housewife (n=59)	25	34	38	21
Others (n=6)	2	4	3	3

n = number of participants in each section

The knowledge level and the practice pattern among the study participants showed significant difference and highly significant difference with respect to education (p value= 0.03011 and p value=0.0000001) at Pearson chi square value of 8.939 and 63.41 respectively. Educated participants showed improved knowledge and practice preferences compared to others.

The knowledge and practice patterns showed significant difference with respect to their occupation with a p value of 0.02017 and 0.000019 at a Pearson chi square value of 13.37 and 29.39 respectively.

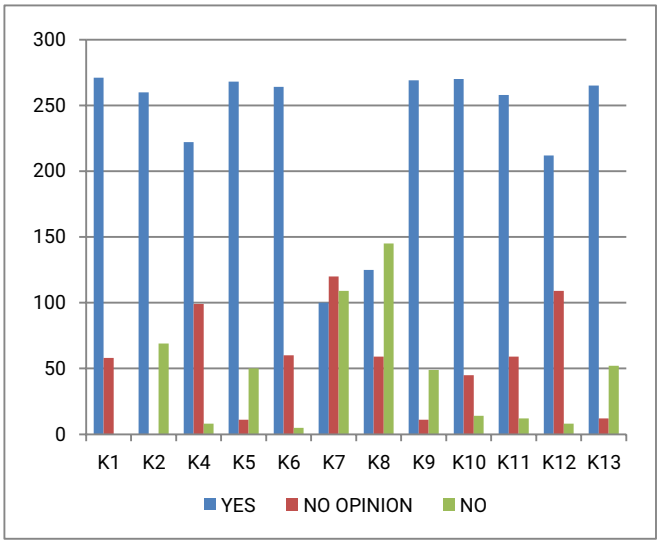

Figure 1: Graph showing the responses for questions regarding knowledge of COVID-19

It was observed that correct responses were obtained from majority of the participants in questions regarding the characteristics and symptomatology of the disease. However it incorrect responses were received for conjunctivitis being a symptom of COVID-19 and tear film being a mode of spread of COVID-19. Participants were also incorrect regarding the incubation period of the disease. Majority of the awareness was through the audiovisual means of communication.

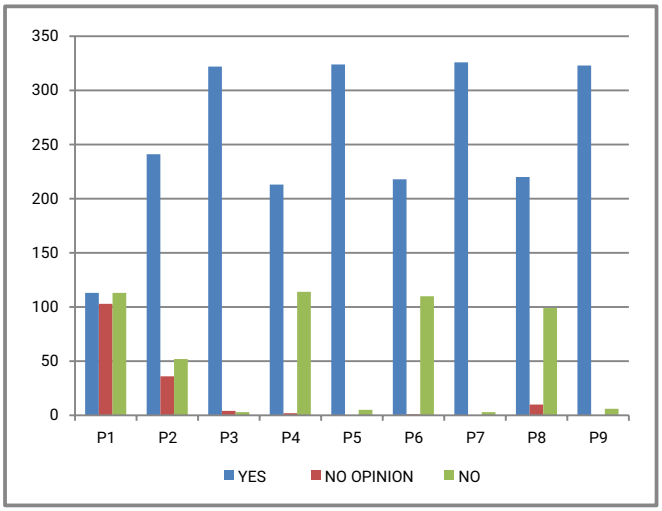

Figure 2: Graph showing the responses for practice preferences among the study participants

The graph shows the responses of the participants to practice related questions. Though most of the practices were in favour of avoiding the risk of contraction of the disease, majority of the participants were not aware of the importance of avoiding rubbing and touching their eyes in order to prevent spread of the pandemic.

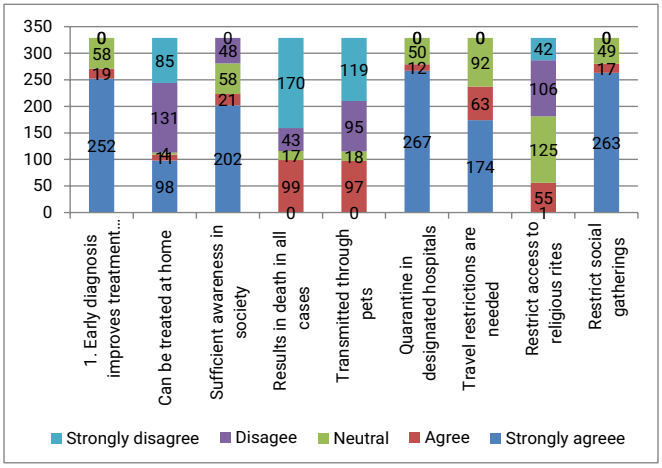

Figure 3: Graph showing the attitude of the participants towards COVID-19

The attitude of the participants was analysed and found to be satisfactory in majority. The responses of participants to majority of the questions were in favour of avoiding the risk of contracting the disease, except for a significant difference of opinion pertaining to the restriction of religious rites.

Discussion:

In this study, the knowledge, attitude and practice of the patients and attenders attending the Ophthalmology department at a tertiary eye care hospital in North Karnataka was assessed with the help of a questionnaire. Their demographic details are also taken into account in this study. The study showed no gender based differences when it came to knowledge, attitude and practice regarding COVID-19. This was contradictory to the studies by Zhong BL et al[8] wherein females showed a significant difference with females having a better score than males in attitude and practice.

A significant difference in the KAP was noted with age, the level of knowledge and practice decreased with increasing age. This may be attributed to their lack of exposure to sources of information. Even education status of the patients significantly affected their knowledge, attitude and practice. Occupation wise differences were also noted. Though the knowledge level among students was satisfactory, their practice patterns were inadequate. This is probably due to their ignorance and false belief regarding less mortality among the younger age group. Labourers on the other hand were found to have good practice preferences in comparison to their knowledge about COVID-19. People working in the agriculture sector lacked behind in knowledge, attitude and practice patterns in comparison to other occupations.

Knowledge assessment among participants was found to be adequate in 169 (51.36%) participants. Only 106 (32.31%) of the respondents had knowledge about the incubation period. 81.76% are aware of the prevalence of COVID-19.

Their awareness regarding transmission modalities being cough, sneeze and droplet(82.06%) and contact with infected surfaces(78.41%) is also good. 64.43% opined that washing hands with soap would eliminate the cause of the disease whereas 80.54% were aware of the importance of using face masks. Majority of the participants (65.43%) attained information regarding COVID-19 through the audiovisual media.

120 (36.47%) of the respondents did not consider conjunctivitis to be a symptom of COVID-19 and 145 (44.07%) were not sure of the spread of the disease through tear films. Transmission of COVID-19 via the ocular surface and conjunctivitis being a symptom of COVID-19 has been reported in the article by Lu CW et al[9].

Attitude of the participants were assessed. The participants strongly favoured the early diagnosis aiding in efficient treatment (252) [76.59%] and quarantine of COVID19 patients in designated hospitals (267) [81.15%]. 202 [61.39%] participants felt that the awareness about COVID-19 in the society was sufficient and 174 [52.88%] strongly favoured travel restrictions in order to avoid transmission. The fact that 99 [30.09%] participants felt that COVID-19 results in death in all cases and 94 [28.57%] thought that pets could transmit the disease points out to the wrong notions and the resultant unnecessary panic existing in the minds of the participants. There was a mixed response from the participants regarding restriction of religious activities, but they strongly favoured (263) [79.93%] the concept of avoiding social gatherings to reduce the risk of transmission.

Practice patterns in the participants were assessed. 65.65% had satisfactory practices in order to reduce the risk of contracting the disease. 322 (97.87%) participants believed that avoiding handshakes reduced the risk and 324 (98.48%) preferred to use face masks strictly in order to avoid contracting COVID-19. 323 (98.17%) participants felt the need to pay more attention to personal hygiene. 241(73.25%) felt the necessity to avoid unnecessary travel. However only 113 (34.34%) believed that the risk could be reduced by avoiding touching and rubbing of the eyes.

At the end of the questionnaire, the wrong notions of the participants were attempted to be cleared. More emphasis was laid on making participants aware of the ophthalmology related risks and modes of transmission through tears and avoiding frequent touching and rubbing of the eyes.

An assessment of the knowledge, attitude and practice of the participant would give an insight into the preparedness of the participants to face the pandemic. Any misconceptions about the pandemic in the participants would be brought to light thereby giving a scope for increased awareness and emphasis on such facts. As ophthalmologists, it is important to create more awareness about preventing the spread of the disease through conjunctivitis and tear film. In order to tackle COVID-19 which is a rampant pandemic with little research data, a continuous upgradation of the knowledge, attitude and practice among the general population is required.

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