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RESEARCH ARTICLE

COVID-19 AWARENESS AMONG PATIENTS VISITING A DENTAL HOSPITAL IN KERALA, INDIA

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ABSTRACT

Background: The first case of COVID-19 was reported in the state of Kerala in India on 30th of January 2020. Since then the Government of Kerala has acted swiftly in preventing the spread of infection. The first wave affected 3 medical students from China, who were treated successfully. The second wave started from 7th of March and till date, about 401 patients have been diagnosed positive. This study was conducted between the first wave and beginning of the second wave to assess the awareness of patients visiting a dental teaching institution. **Methodology:** The study was a cross-sectional questionnaire-based survey. The target population was the patients visiting a dental teaching institution in the state of Kerala, India. The questionnaire consisted of 11 questions with 2 sub-questions. The questionnaires were distributed by the house surgeons posted in the Department of Public Health Dentistry. The respondents filled the answers in the questionnaire on their own and were asked to return the filled questionnaires immediately. The data collection was done over a period of one month during February – March 2020. **Results:** A total of 440 responses were obtained. All respondents had heard about corona virus. Over 98% knew it originated from China. 99% knew the country of origin. The most common symptom the respondents knew was breathlessness followed by flu like symptoms. Newspapers, government sources and social media were the most common sources of awareness. Over 58% agreed that they knew where to report. 52% were taking precautions. Over 96% were interested in knowing more about the disease. **Conclusion:** The respondents had a very good awareness on COVID 19, even before the second wave of the epidemic in Kerala.

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INTRODUCTION

There was an emergent pneumonia outbreak in Wuhan city, China, towards the end of December 2019. Its cause was then unknown. Later it was identified as a viral disease and was named as COVID-19. The outbreak was declared a Public Health Emergency of International Concern on 30 January 2020, by the World Health Organization. On 11th of March 2020, the disease was characterized as a pandemic (1). As on 19th of April 2020, the pandemic has rapidly spread affecting 210 countries world-wide. The virus has affected approximately 24,07,467 people and has so far claimed about 1,65,074 lives (2).

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Risk of complications due to COVID-19 disease are more in the immunocompromised, old aged and medically compromised patients, especially patients with lung related diseases. The symptoms of COVID-19 are cough, cold, breathing problem very similar to flu. It is reported by the doctors that a person infected by COVID-19 recovers within 14-16 days because the incubation period of novel corona virus is fourteen days. The spread of the disease can be prevented by social distancing, washing hands frequently, avoiding touching the mouth, nose, and face (3) In India, the first case of COVID-19 was reported on 30 January 2020, in Thrissur, Kerala originating from China. Over a period of two and a half months, this disease spread in almost all parts of the country. At present, total cases are over 15,273 among whom 2,463 are recovered and about 521 deaths reported (4). Since 30th January 2020, there have been 401 cases diagnosed till 19th of April 2020. (5) Kerala, with a robust public health system is beginning to flatten the curve of the epidemic, with only 129

active cases, 270 recoveries and 2 deaths. A multifactorial approach and intersectoral co-ordination have contributed to this achievement. Kerala has an excellent track record in the way it has handled epidemics in the past, including the deadly Nipah in 2018. Community awareness is a key factor that plays a significant role in effective implementation of the initiatives from the government. Kerala was expecting to have Corona right soon after China declared its condition way back in Jan 2020. Kerala due to its very high non-resident Malayalee population living in many countries of the world was sure, they will soon get this new disease through them and it was so right its judgement when the first COVID 19 case of India was reported. Stringent measures and mass awareness programs could fully contain the first wave of the disease in state. This study was conducted during the period between the first wave and the beginning of the second wave (March 7th 2020 onwards), to assess the awareness of the patients visiting a dental college.

METHODOLOGY

The study was a cross-sectional questionnaire-based survey. The target population was the patients visiting the out-patient department of a dental teaching institution in Kothamangalam, Ernakulam district in the state of Kerala, India. A prefabricated validity tested questionnaire was devised for use in the study. The questionnaire consisted of 11 questions with 2 sub-questions. The sub-questions were open ended. The questionnaire was fabricated in English language and then translated to the local language, Malayalam. The questionnaires were distributed by the house surgeons posted in the Department of Public Health Dentistry. The respondents filled the answers in the questionnaire on their own and were asked to return the filled questionnaires immediately. A voluntary informed consent was obtained from each participant prior to distribution of questionnaires. The data collection was done over a period of one month during February – March 2020. Necessary ethical clearance for the study was obtained from the Institutional Ethical Committee of the dental teaching institution.

Statistical Analysis: All returned questionnaires were coded and analysed. Results were expressed as number and percentage of respondents for each question and were analysed using the SPSS Version 17 software.

RESULTS

A total of 440 responses were obtained. Table I shows the response to the questions on COVID 19 awareness. All respondents had heard about corona virus. Over 98% knew it originated from China. 99% knew the country of origin. The most common symptom the respondents knew was breathlessness followed by flu like symptoms. Newspapers, government sources and social media were the most common sources of awareness. Over 58% agreed that they knew where to report. 52% were taking precautions. Over 96% were interested in knowing more about the disease

DISCUSSION

Epidemics and pandemics are a periodic phenomenon. People in the community face several challenges during such periods. Lack of awareness often leads to an unconcerned attitude,

which may adversely affect the preparedness to meet these challenges (6). The study was conducted among the routine outpatients visiting a dental teaching institution in Ernakulam District of Kerala, India. The survey was conducted over a one-month period from 14th February 2020 to 15th of March 2020. As stated earlier, the first case was reported on 30th of January 2020. Subsequently 2 other patients (all three were Medical students from Wuhan) were diagnosed positive. Since then, Kerala's response to COVID-19 has been remarkable. Kerala has since been able to contain the spread of the virus through very proactive measures and protocols that seek to educate the public about the necessary precautions to prevent the spread of diseases. From airport screening and hospital quarantine to panchayat directives on infection control and home isolation protocols, setting up of COVID Hospitals, the state was well prepared (7).

March 7th 2020 saw the emergence of a second wave of cases, with 3 new cases detected at Pathanamthitta (three of a family from Italy) (5). Since then the state was put on high alert. There was an exponential increase in the number of cases towards the end of March and with the existing public health machinery of state, contact tracing, strict enforcement of National level lock down, relatively high testing rate, excellent health care facilities, 'Break the Chain' campaign, mass awareness programs, a flattening of the curve has been evident towards the mid of April. The present questionnaire survey was conducted during the period from February 14th to March 15th, from a period when there weren't any active cases to a period when the second wave of cases had just begun. Hence, the results of the study emphasise the awareness of the public during the early phases of outbreak. The target population were the patients reporting to the dental teaching institution for regular treatment. It can be observed that all the respondents were aware of corona virus infection. About 98% knew that it originated from China. It is noteworthy that aver 55% had already attended awareness classes regarding prevention of corona virus infection. The predominant source of awareness for vast majority of the respondents (more than 86%) was newspaper, reflecting the high newspaper readership in Kerala (8) Social media is yet another important source of awareness.

About 7% reported of having received awareness through programmes conducted by the resident's association, indicating that such programmes were initiated by the resident's associations well ahead of time. As per the guidelines from the Kerala University of Health Sciences and the Health Department of Kerala, awareness classes were organised across the state in all health care institutions for the benefit of the public and for the patients visiting the institutions.(9) This is reflected in about 14% of the respondents, reporting to have received awareness from dental college. The primary health care system in Kerala was active in conducting awareness programs through the Primary Health Centres and Accredited Social Health Activists (ASHA). It was noted that about 58% of the respondents knew where to report if they had symptoms / suspected anyone having symptoms. And among the 188 who responded to the sub-question, over 90% answered as Public Sector Hospital/Disha Helpline. Disha was the tollfree helpline number -1056 - set up by the Ministry of Health, Government of Kerala for the purpose. (10) A nation-wide study conducted in India by Roy D et. al reported moderate knowledge among the respondents.(6)

Table 1. Response to the questions on COVID 19 awareness

Sl. No.	Question	Options	n(%)
1	Have you heard about corona virus?	Yes	440 (100%)
		No	0 (0%)
2	From which country did this disease originate?	India	1 (0.2%)
		China	435 (98.9%)
		Japan	4 (0.9%)
		Don't know	0 (0%)
3	How does this disease spread	Aerosol	431 (98.2%)
		Mosquito	6 (1.4%)
		Lack of hygiene	2 (0.5%)
		Don't know	0 (0%)
4	What are its symptoms? (multiple options)	Cough	67 (15.2%)
		Fever	213 (48.4%)
		Breathlessness	249 (56.6%)
		Joint pain	57 (12.9%)
		Flu like symptoms	140 (31.8%)
		Loss of appetite	97 (22.1%)
5	Have you attended any awareness program in relation to this disease?	Yes	246 (55.9%)
		No	193 (44.1%)
6	Source of awareness regarding the infection (multiple options)	PHC/Hospital	42 (9.54%)
		Social Media	164 (37.3%)
		Dental college	62 (14.1%)
		Television	178 (40.5%)
		Residence association initiative	34 (7.72%)
		Newspapers	380 (86.4%)
		ASHA workers	123 (27.9%)
7	Can corona virus disease be fatal?	Yes	284 (64.5%)
		No	156 (35.5%)
8	Do you know where to report of you have symptoms / suspect anyone having symptoms?	Yes	258 (58.6%)
		No	182 (41.4%)
8a	If Yes, where (only 188/258 respondents answered) (multiple options)	Government hospital	98 (37.9%)
		DISHA Helpline	79 (30.6%)
		Police station	5 (1.9%)
		Any nearby hospital	40 (2.5%)
		Primary Health Centre	30 (11.6%)
9	Have you taken any precautions to prevent the disease?	Yes	231 (52.5%)
		No	209 (47.5%)
9a	If Yes	Hand hygiene	130 (56.3%)
		Masks	154 (66.7%)
		Social distancing	18 (7.8%)
10	Have you heard about N95 mask?	Yes	224 (50.9%)
		No	216 (49.5%)
11	Are you interested in knowing more about this disease?	Yes	424 (96.4%)
		No	16 (3.6%)

Over half the number of respondents reported to taking precautions to prevent the spread of disease, of whom, majority reported using mouth masks following hand hygiene by use of soap/sanitizers. Over 95% of the respondents were further interested in knowing more about the disease. This reflects a very positive attitude. A similar study conducted among 6919 Chinese population in the last week of January in China revealed a very high knowledge during the very early stage of the epidemic. The authors consider that this was primarily due to the sample characteristics: 82.4% of the study sample held an associate's degree or higher. Because of the serious situation of the epidemic and the overwhelming news reports on this public health emergency, this population would actively learn knowledge of this infectious disease from various channels of information such as CCTV, the official website of the National Health Commission of China and the We chat official account of the Wuhan Health Commission. (11) Yet another study conducted among comorbid patients in the US during the initial week of outbreak revealed many adult patients lacked critical knowledge about COVID-19 (12). Although this study is a cross sectional study conducted among patients visiting a dental college for treatment, it represents the population at large. The increased awareness, positive attitude and healthy practices, could have had significant impact on further days, during the nationwide 21 day lockdown, followed by 2 week extended lockdown, enabling the state of Kerala to control the spread and flattening the curve.

CONCLUSION

The survey highlights the high level of awareness among patients visiting a dental teaching institution in Kothamangalam in Ernakulam District, especially during the early weeks of outbreak. The increased awareness may be due to the timely efforts taken by the health department, Government of Kerala, that could have contributed flattening of the curve presently.

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