

Assessment of Knowledge and Awareness of Aarogya Setu App Usage among Dental Undergraduate Students

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ABSTRACT

Aim and objective: Aarogya Setu app is designed to spread the awareness of coronavirus disease-2019 (COVID-19) pandemic situation and to know the essential health services to COVID-19 to people of India. Hence, aim of the study is to assess the knowledge and awareness of Aarogya Setu app usage among undergraduate BDS students.

Materials and methods: Cross-sectional online survey was conducted for BDS student. Online informed consent was taken from each participant and the information was gathered using a google form self-administered questionnaire to the participants.

Results: About 80% of dental students had installed and using the Aarogya Setu app. Self-testing tool in Aarogya Setu app was known to 79.30% of the study participants. 89.70% participants were aware about application of guiding the user that if contacted COVID-19 positive and how to self-isolate and what to do if the symptoms develop.

Conclusion: This online survey revealed that the undergraduate's dental students were well versed and aware about the Aarogya Setu app usage and were very proficient in using it.

Clinical significance: This study reported level of awareness and knowledge about the Aarogya Setu app among the dental undergraduate students. This could be used as a tool for assessing the student's health and for providing the healthcare facilities for the needful students.

Keywords: Aarogya Setu, COVID-19, Dental students.

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INTRODUCTION

In the app store and Google play store, there are 97,000 health-related apps. This number amplifies by 25% each year. These health-related apps are widely used by dental practitioners, students, patients as well as for dental education and for the self-diagnosis or the management of the disease.¹

The outbreak of coronavirus disease-2019 (COVID-19) pandemic was first identified in China in December 2019, which is an acute respiratory illness caused by novel coronavirus 2 (SARS-CoV-2). About 2,573,143 cases have been reported worldwide till April 2020 and the count is still raising with an exponential curve.² Various strategies and plans have been put into action by government of India for containing the spread of the disease.³ This disease presents with respiratory or systemic manifestation, some infected individuals remain asymptomatic and can act as a carrier while some experience mild gastrointestinal or cardiovascular symptoms.⁴ Further symptoms of COVID-19 present with dry cough reported to be most prevalent and fever, headache, disturbed taste and smell, sputum production, fatigue, and shortness of breath.⁵

As this pandemic has dramatically outpaced our collective efforts to fully characterize who is most at risk or may suffer the most serious sequelae of infection. A number of digital collection tools have been launched for COVID-19.⁶ Among the electronic health, mobile health is an essential element as it makes healthcare practices accessible to public through mobile communication technologies in many ways like collecting data, observing patients, etc.⁷ For the prevention of further spread and for the awareness about the present scenario, the Indian government has launched several apps among which is the Aarogya Setu app in April 2020 which can be used for COVID-19 contact tracking. In Sanskrit, Aarogya Setu means "bridge to

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health". The Aarogya Setu app is an Indian open-source cross-platform COVID-19 contact tracing, syndromic mapping, and self-assessment" digital service, primarily a mobile app. This tracking app which is used in smart phone with the help of Bluetooth and location-generated social graph to track the COVID-19 infection. This app provides information about the app users till 10 km of distance which in terms helps the user to stay aware of the infected individuals. Government of India has made e-pass mandatory for government and private sector employee to travel all over India. Aarogya Setu app can be easily downloaded and installed by anyone, moreover it is easy to handle.

However, there are number of health-related apps for health and wellness promotion and disease prevention for general public. Study performed by Iyengar 2017⁸ reported that over 300 million people use smart phones in India. Hence, the aim of our survey was to assess the knowledge and awareness of Aarogya Setu app usage among undergraduate BDS students.

MATERIALS AND METHODS

This cross-sectional online survey was conducted for BDS student of VSPM Dental College and Research Centre, Nagpur in the month of April 2020. All the BDS undergraduates including interns were enrolled in the study. The study was approved by the institutional ethics committee. Online informed consent was obtained from each participant and the information was gathered using a google form self-administered questionnaire to the participants.

Out of 490 participants from 1st year to intern, 424 participated and filled the questionnaire completely. All the data were collected digitally and analyzed for the results.

RESULTS

Out of 490 participants, 424 participants filled the questionnaire giving the response rate of 86.73%. Table 1 shows about 95.5% of participant were aware of the of Aarogya Setu app, whereas 4.5% of students were unaware. 70.50% students had installed Aarogya Setu app on their smart phones. 80.70% participants were well versed with the use of Aarogya Setu application. 93.10% knew about risk of contracting COVID-19. About 58.30% students were aware of e-pass facility provided by the app, whereas 41.70% of students were not aware of these features. Seventy-eight percent of participants had knowledge about the vicinity of COVID-19 positive patients in their paths through this app. 79.30% participants aware of self-testing tool in Aarogya Setu app 89.70% participants were aware about application of guiding the user that if contacted COVID-19 positive and how to self-isolate and what to do if the symptoms develop. Ninety percent of participants knew as that Aarogya Setu app gives information about total COVID-19 patients all over the India. Sixty-eight percent of participant found this app is useful, whereas 4% have no in favor of it, moreover about 27% participant did not know about the app. On asking about app recommendation 87% gave positive response for recommending the app to their friends and family.

DISCUSSION

The present study was carried out to assess the knowledge and awareness of Aarogya Setu app among the undergraduate BDS students. According to a study conducted by Singh and Alva⁹ on mobile health apps among the medical students, 89.1% students had installed one or more medical apps on the smart phones which reflects the positive attitudes toward the utility of Health Apps for personal health and fitness. The study conducted by Byambasuren et al.¹⁰ on knowledge and adoption of mobile health apps among Australian general practitioners showed that most of the general practitioners use the apps as well as they recommend them to the patients.

A study was conducted on tracking of self-reported symptoms to predict potential COVID-19 by Menni et al.¹¹ in which among the 2,618,862 participants reported their potential symptoms of COVID-19 on a smartphone-based app. Drew et al.⁶ established the coronavirus pandemic epidemiology to develop a COVID-19 symptom tracker mobile application and launched it in UK on March 24, 2020 and there were more than 2.8 million users as of May 2, 2020, this app offered information on risk factors, herald symptoms, clinical outcomes, and geographical hotspots.

In the present study, the app used provided information about nearby COVID affected cases precaution measures, self-isolation

Table 1: Positive responses obtained on knowledge and awareness about Aarogya Setu app

S. no	Questions	Positive response (%)
1	Are you aware of Aarogya Setu app developed by Government of India?	95.50
2	Do you know how to use the Aarogya Setu app?	80.70
3	Do you know that this app helps you to identify their risk of contracting COVID-19?	93.10
4	Do you know that the app could also provide an e-pass facilitating travel from one place to another?	58.30
5	Do you know that this app informs if you have crossed paths with someone who has tested positive for COVID-19?	78
6	Do you know that the app provides a tool for self-testing?	79.30
7	How do you think the app guides you?	89.70
8	What do you think are the question used for self-testing by this app?	91
9	Did you know that the app provides information about COVID-19 cases all over India?	90
10	Have you used the Aarogya Setu app?	70.50
11	If yes then did you find it useful?	68
12	Will you recommend it to you friends and family?	87

techniques. The results of this study showed that over 70.50% of dental students have been installed and using the Aarogya Setu app. The above results are in accordance with the previous studies⁹ reporting that over 85% of health professional and medical students use a smartphone and 30–50% student uses medical application for learning and information purposes.

95.5% students were aware of a Setu app but 30% student had not installed the app as they might found that this app might be helpful for positive patients and more prone individual, takes storage space of phone and drain battery and so they have might not downloaded the app. Fifty-eight percent of students have knowledge that e-pass facility is available for those who have installed a Setu app. Among the app users, 79.30% users knew about the self-testing tool provided by the app in this feature the questions regarding the symptoms, systemic illness, travel history are asked, and 91% users knew about all of these questions which means they all have taken this self-testing test. About 90% participants were aware about the feature providing information on all over India COVID-19 affected cases. Hence, among the 80.70% participants who use this app, most of them know about the various features of these apps and have found them useful.

There are certain limitations of the study like the survey being online and not every individual from the intended study population responded to the survey.

CONCLUSION

Within the limitations of the study, it can be concluded that the undergraduate dental students were familiar and aware about the Aarogya Setu app launched by the government of India, although few participants using the app did not know about all of the features provided by the app. The Aarogya Setu app indeed is a sophisticated surveillance system and was found to be useful and majority of the study participants were happy to share it with their family and friends.

CLINICAL SIGNIFICANCE

This study reported the level of awareness and knowledge about the Aarogya Setu app among the dental undergraduate students. This could be used as a tool for assessing the student's health and for providing the healthcare facilities for the needful students.

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