

## Perceptions of Covid-19 in school children of 6-12 years in Thiruvallur district-A Cross-sectional Study

Karthiga Mohankumar <sup>1</sup>, Sarika Balaganesh <sup>2</sup>

<sup>1</sup> Postdoctoral Preceptor in Section of Periodontics, UCLA School of Dentistry, Los Angeles, California

<sup>2</sup> Department of Public Health Dentistry, Saveetha Dental College, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Poonamalle High Road, Chennai-600077

### ABSTRACT

Background: It is important to know current level of knowledge, perception and practices about COVID-19 of children for their safety when left on their own in community. Knowing this would help the policy makers, parent and teachers to decide the appropriate ways and content that needs to be explained to them in order to ensure the appropriate steps are taken by children to protect themselves when not supervised. Objective- To find level of knowledge (spread, symptom), perception about the disease and its outcome, and practice of safety precautions about COVID-19 by school going children of age 6 years to 16 years using a questionnaire in Quiz format as per score of the quiz. Method- A survey in the form of Quiz was devised and circulated on school groups and social media. Willing parents were asked to get it filled from their children. Total 786 responses were obtained in months" time (15 May-15 June 2020). Collected data was analysed using descriptive statistics. Results: More than 90 % of the children believed that fever, cough and sore throat was the signs of COVID-19. Children were not aware that loss of smell was the sign of COVID 19. 84% of the children answered that recovery is possible after COVID -19 viral infection and 13% of the children was not sure. Conclusion: Students were aware about the pandemic which the world is under and the signs of covid virus is also well known by the students. Television and social media played a vital role in transferring information

**KEYWORDS-** Covid-19, lockdown, house surgeons, dental curriculum, rotational postings

#### Address for correspondence

Dr. Sarika Balaganesh, Department of Public Health Dentistry, Saveetha Dental College, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai-600077

E-mail address- drsarika1995@gmail.com

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## INTRODUCTION

COVID-19, a biomedical disease has serious physical and tremendous mental health implications as the rapidly spreading pandemic<sup>[1]</sup>. One of the most vulnerable, but neglected, an occupational community of internal migrant workers is prone for development of psychological ill-effects due to double whammy impact of COVID-19 crisis and concomitant adverse occupational scenario<sup>[2]</sup>. The first outbreak of COVID-19 occurred in Wuhan, Hubei Province in early Dec 2019 where several patients with viral pneumonia were found to be epidemiologically associated with the Huanan seafood market in Wuhan<sup>[3]</sup>. COVID-19 Pandemic has reached a level of a humanitarian crisis with over 6 million confirmed cases and 350,000 deaths reported globally to date. PHEICs can pose a significant mental health risk to communities especially in developing countries, where the risk is further precipitated by suboptimal socio-economic determinants<sup>[4]</sup>. The consequences of COVID-19 impacts not only the physical health and wellbeing but also the mental health, which can have a disastrous effect on the health system<sup>[5]</sup>. This disease has caused a massive global health challenge and has created ripples in the medical fraternity. Undoubtedly, it requires unprecedented strategies such as massive surveillance to prevent spreading, creation of a sophisticated network of diagnostics and medical facilities for immediate detection and treatment of the disease, and extensive research for the quick development of drugs and vaccines for future protections<sup>[6]</sup>.

According to WHO, elderly, those with associated comorbidities and immunity compromised individuals along with children are prone for such infections<sup>[7]</sup>. Governments have closed the schools and colleges as the first step to break the chain of corona<sup>[8]</sup>. Now also the schools will be the last place to open up in the chain of normalizing the life and society<sup>[9]</sup>. Its predicted that the virus will be a part of our lives for some time now as per WHO.

Thus, when the schools reopen it would be important to protect children from being exposed to it in school environment as many children will be coming from different areas sectors and communities<sup>[10]</sup>. Children many times prefer to sit, play, eat and do activities into groups at schools. Although schools will make sure to follow all standard precautions and social distancing it would be difficult to make children follow these new socialization norms if they don't understand gravity of current situation<sup>[11]</sup>. To ensure that they understand and follow safety precautions when they are in community on their own its important to understand their current level of knowledge perception and practices about COVID 19<sup>[12]</sup>. Knowing this would help the policy makers, parent and teachers to decide the appropriate ways and content that needs to be explained to them in order to ensure the appropriate steps are taken by children to protect themselves when not supervised. In this study we decided to detect the knowledge about the spread of Covid-19 and the perspectives of the school children. Hence this study aims to determine the safety practices and perceptions of Covid-19 in school children.

## MATERIALS AND METHODS

This study is a cross-sectional study using a self-administered questionnaire. Study population was school going children. Study setting was government schools in Thiruvallur district. Convenience sampling technique of data collection was performed. Sample size was determined to be 786 which was obtained from the previous studies<sup>[13]</sup>. The Inclusion criteria was all children of age 6 years to 16 years, Exclusion criteria: children/parents not willing for participation, any type of cognitive insufficiency that will affect participation in study. Data Analysis was transferred to MS Excel sheet and performed in SPSS Software version 25.

A COVID-19 quiz formed by the investigators using recent WHO guidelines. It was presented in Tamil and English language. It was made with a

purpose of parents/children being able to fill it sitting at home in order to collect data even in lock down. Investigators email ids were given in order to contact in case of queries. It consisted of questions related to demographic data, basic awareness about spread, precautions and perceptions related to COVID-19. This was formed in a quiz format to ensure children attention is kept at maximum level. It was in the form of MCQs where children had to choose between yes, No, Not sure for each option. To make it easy and interesting, answers were posed in verbal as well as picture format. Scoring as per question was given. Total score was 58. Any one scoring above 40% - 55% i.e. 23-32 was considered to have „Adequate knowledge“ about the disease and those below it need to have more knowledge in order to keep themselves safe. Score between 56% to 75% i.e. 33-44 was considered to be “Good knowledge” and that of 76% and above i.e. more than 45 was considered to be “Excellent knowledge”. A detailed description about what the parents should do while filling this quiz was given at the start of quiz. Parents and participants could see detailed analysis of their responses if they wished to do so after submission of quiz. Questions like name, gender, address and other personal information were kept optional. A detailed instruction sheet was provided about how to fill the questionnaire and role of parents/teachers (whoever was getting the questionnaire filled). Collected data was presented in Excel sheet and analysed using descriptive statistics.

**RESULTS**

21% of the children were from 6 to 9 years of age. 71% of the children were from 10-13 years of age. 8% of the children were from 14-16 years of age. 48% of the children were males and 52% of the children were females.84% of the children answered that avoiding social gatherings were important for preventing the disease. 6% of the children answered that taking antibiotics were used to prevent COVID-19. 51% of the population

answered that wearing mask protects COVID-19.76% of the children answered that using sanitizers prevented Covid-19 disease.54% of children answered that source of information was from Parents/ Family members, 15% of the children answered that they received information from friends. 14.67% of children through Television / Social media, 88.78% of children through school/ online information sessions.

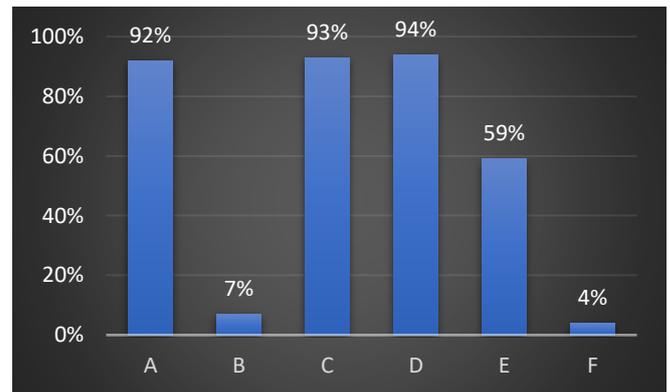


Fig 1: Knowledge of the participants about spread of Coronavirus

- A=Through touching infected person/ surfaces
- B=Through water
- C=Physical contact
- D=Social gatherings
- E= Through fomite/ droplets in air
- F= Mosquito bite

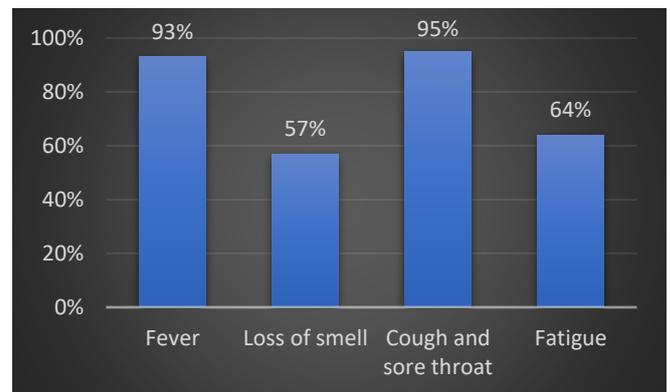


Fig 2: Knowledge about Signs of COVID-19 among participants

More than 90 % of the children believed that fever, cough and sore throat was the signs of COVID-19. Children were not aware that loss of smell was the sign of COVID 19.

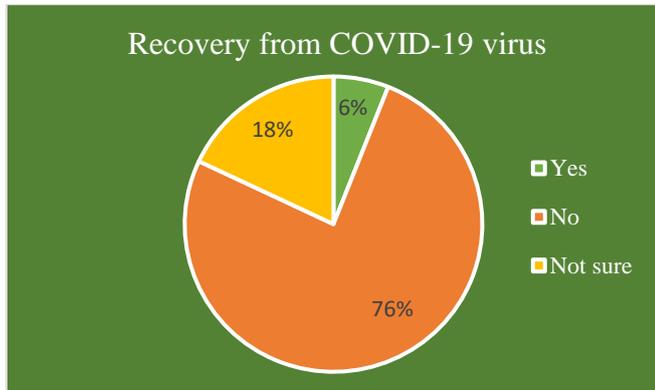


Fig 3: Stigma regarding recovery from COVID-19 virus among participants

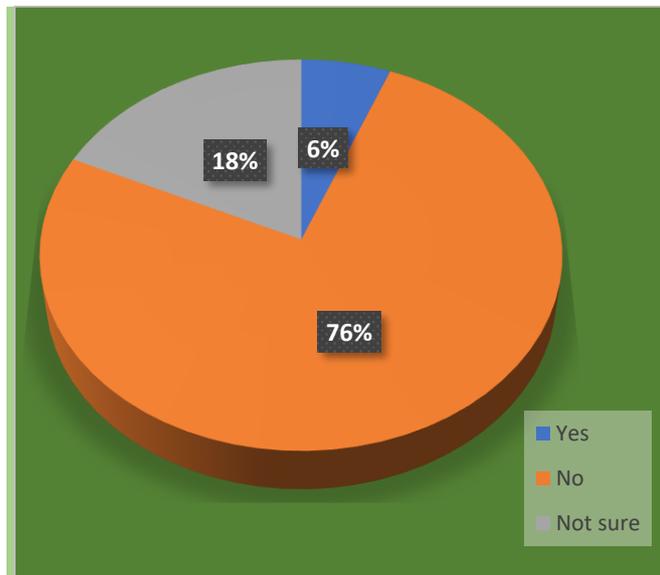


Fig 4: Knowledge about availability of vaccines for COVID-19 among participants

6% of the children answered that recovery is possible after COVID -19 viral infection and 76% of the children was not sure.

76% of the children answered that there was no vaccine available for Coronavirus infection, 18% were not sure about the vaccination status and 6% answered that vaccination is available for Coronavirus infection.

## DISCUSSION

Total 786 children participated in this survey. Most of the children were aware about the coronavirus infection. It is important for children to know how COVID-19 spreads, so that they can be vigilant about saving themselves from the spread. Hence a question was asked about how the infection spreads. 92% of the children believed that touching infected person and surfaces. Physical contact and Social gatherings were believed to cause infection spread by 93% and 94% respectively. More than 90 % of the children believed that fever, cough and sore throat was the signs of COVID-19. Children were not aware that loss of smell was the sign of COVID 19. 84% of the children answered that recovery is possible after COVID -19 viral infection and 13% of the children was not sure. 76% of the children answered that vaccine was not available in India till date. Mostly information was spread through the television to the children and hence they were aware of the disease.

WHO has advised avoiding social gatherings, social distancing, frequent hand sanitization, use of masks and no touching of eyes, mouth and nose policy for protection from this infection.<sup>1</sup> Many countries have come up with their own safety guidelines too<sup>[14]</sup>. More than 95% of participants of this survey answered as „Yes“ for these safety measures. This is a very good number and an assuring sign that they would be able to keep themselves safe in community. This virus affects the lung tissue and causes fibrosis leading to respiratory difficulty and loss of oxygen saturation leading to further complications. Hence strong cardiorespiratory system can be an effective way measure to save one self. Thus, breathing exercises are emerging as a combating strategy against COVID-19. 72.45% participants though it to be a protective measure.

Guanghai Wang discussed about closing of school and its effects on children during COVID 19 outbreak<sup>[15]</sup>.<sup>15</sup> Many schools and colleges have started online teaching since June in India. When

asked about what type of learning would they prefer 47.58% chose a combination on online and classroom teaching as to be the best option for them. Thus, we can say that almost 95% of children have a good knowledge about this disease and they seem to be well prepared to face the challenges when the schools are reopened or when they have to manage on their own in community in the current scenario.

## CONCLUSION

Overall, there was a good level of awareness in children about COVID-19 symptoms; precautions. TV/social media seems to be a good source to spread more awareness and information in this group.

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