DENTAL AND ORAL HEALTH OF ELEMENTARY STUDENTS DURING THE PANDEMIC OF COVID-19

Martha Mozartha[1]*, Siti Rusdiana Puspa Dewi[1], Ulfa Yasmin[1], Hema Awalia[1], Sulistiawati[1]
[1]Dentistry Study Program, Faculty of Medicine, Sriwijaya University, Palembang, Indonesia
*Correspondence author email: martha.mozartha@gmail.com

ABSTRACT

The Covid-19 cases have caused limited access to dental and oral health services and education, especially for school children who have higher caries risk. Factors affecting children's dental and oral health during the pandemic need to be studied, and special attention regarding caries prevention measures at this time is needed to be discussed. The purpose of this literature review article is to discuss the dental and oral health of elementary school-age children during the Covid-19 pandemic.

Keywords: Covid-19, oral health**,** prevention, school-age children

INTRODUCTION

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is a pathogen that causes a pandemic disease that occurred in early 2019, which was named Coronavirus disease 2019 (Covid-19). The first case was reported in Wuhan City in Hubei Province in China, and by the end of March 2020, there were more than 1000 confirmed cases reported in Indonesia and more than 100 deaths related to the case.[1] Covid-19 is generally transmitted through droplets from the mouth of an infected person, for example, when sneezing or coughing. In addition, there may also be an airborne transmission route.[2] Thus, dental care has a very high risk for transmission and cross-infection between dentists, nurses, and patients. Therefore, the Association of Indonesian Dentists (PDGI) urges dentists to minimize their practice during the pandemic and only serve emergency cases.

Limited access to dental practices and the public's concern to visit the dental and oral health service centers causes many delays in dental and oral care, especially aerosol-generating procedures. However, the progression of oral disease can cause pain, infection, and sepsis, and acute conditions need prompt treatment. Moreover, delayed and postponed treatment increases the need for more extensive and urgent care.[3] Public awareness to improve dental and oral hygiene and health is very necessary as the key to preventing dental and oral diseases, especially in elementary school-aged children who are very susceptible to dental caries.

Elementary school age is an ideal time to train a child's motor skills, including brushing teeth.[4] At this age, it is easier to form changes in individual behavior, knowledge, and attitudes. These factors play a significant role in influencing dental and oral health status. Factors related to this behavior include brushing teeth, consuming cariogenic foods, and oral hygiene maintenance.[5] During the pandemic, the government encourages people to stay at home, delaying visits to the dentist, and teaching and learning activities in schools are carried out at home online. Children are spending more time with their parents at home. It further emphasizes the importance of the role of parents in maintaining the health of children's teeth and mouth. Parents play a role in guiding, reminding, and providing adequate facilities for children to maintain their oral health.[6] In addition, parents' behavior also affects the health status of the child's oral cavity.

Thus, oral health care for school-age children during the Covid-19 pandemic needs more attention, and preventive measures are needed. The purpose of this literature review article is to discuss the dental and oral health of elementary school-age children during the Covid-19 pandemic.

DISCUSSION

The government of China has taken many measures to control the transmission of Covid-19 efficiently. Since the beginning of the pandemic. These include lockdown, home quarantine, work at home, and school from home. Also, dental practices were only providing emergency dental services across China since January 2020 due to the restriction of aerosol-generating procedures.[3] It does not only happen in China but applies almost all over the world, including Indonesia.

Li et al. conducted an online cross-sectional survey involving elementary school students in Wuhan, China, to investigate oral health status, oral healthcare behaviors, and parental attitudes toward oral healthcare among school-age children in Wuhan during the COVID-19 outbreak. The results revealed that pandemic situations had led to difficulties for people to have a dental visit, even when the epidemic was controlled. Furthermore, the prevalence of self-reported caries in this survey was higher in children aged 6–9 years than in children aged 10–13 years, 41.1% and 30.4%, respectively. It indicated that the dental health status of the younger group was more susceptible to the epidemic than the older group. The questionnaire also indicated that parents tend to put more concern on the younger children. It can be seen from the higher proportion of the younger group that used recommended oral healthcare products and oral health services than the older group during the epidemic. In the study, 53.4% of parents still tend to avoid going to the hospital. Due to concerns about the transmission of COVID-19 during dental procedures.[7]

Another online survey was conducted in Wuhan involving preschool children aged 3–6 years living in China during Wuhan lockdown. The caregivers completed the questionnaire to investigate the influences of COVID-19 on oral health and its associated issues of preschool children and attitudes towards the oral healthcare of caregivers. They reported a change in the children’s attitude towards oral health and preferred to focus on oral

prophylaxis. It can be suggested that oral health education and promotion programs need to be developed more to provide instruction in effective prevention. Dental professionals can use digital platforms to build positive oral health behavior when direct dental care is not available. Virtual zoom meetings, webinars, and social media are practical to communicate directly between parents or caregivers and even with children to provide counseling about dental health and exchange information in time.[8]

A similar trend was observed in a study by Campagnaro et al. conducted in Brazil. Around 1000 respondents are involved in this online survey, and only 17.8% of the total respondents are willing to take their children to dental care regardless of the procedure. Sixty percent of parents would only seek dental care in urgent conditions. Respondents living in areas with higher COVID-19 cases have a greater fear and precaution regarding finding dental treatments than those living in less affected areas.[9]

The Indonesian Dentist Association (PDGI) released guidance regarding the restriction of aerosol-originating dental procedures. Balafif et al. conducted an online survey comprised of participants in the range of 19-60 years old who live in a community in Bandung, West Java, to determine the oral health status of the community during the Covid-19 pandemic. This study showed that in this group age, the highest oral health problem was tooth cavities, followed by toothache. It is related to the lack of dentist visits for check-ups or treatment during the pandemic. Most of the participants in the study had a high level of education.[10] The educational level is related to oral health knowledge. The academic level of subjects increased, so did their oral health knowledge.[11] Also, it is essential to improve public knowledge in maintaining oral hygiene during this pandemic. Efforts are needed to increase the level of awareness regarding oral hygiene in elementary school-aged children.

Since the beginning of pandemic outbreaks throughout the world, many hospitals and dental offices implementing teledentistry to facilitate “face-to-face” communication over a remote distance between clinicians and patients. Teledentistry is a novel method of health service delivery that enables triage patients, contact follow-up patients, and give advice and reassurance when necessary. Menhadji et al. stated that teledentistry could be a suitable alternative to increase patient access to healthcare services and save resources during the COVID-19 pandemic and possibly beyond.[12] Online public communication platforms such as Youtube, with more than 2 billion registered users, could be a valuable tool to convey this information to dental practitioners during the COVID-19 outbreak.

CONCLUSION

The COVID-19 pandemic is not over yet. This global pandemic presents an opportunity for the dental profession to shift from a curative approach focused on curing the illness to prevention. Effective preventive measures are needed to improve dental and oral hygiene in populations susceptible to dental and oral diseases, such as primary school-age children. Dentists can use digital platforms such as virtual counseling, upload educational videos on YouTube channels, and teledentistry for virtual face-to-face consultations.

REFERENCES

1. Setiati S, Azwar MK. COVID-19 and Indonesia. Acta Med Indones. 2020 Jan;52(1):84-89.
2. Januar P. Covid-19 dan kedokteran gigi. PDGI. 2020. [cited 16 November 2021]. Available from: http://pdgi.or.id/artikel/covid-19-dan-kedokteran-gigi
3. Brian Z, Weintraub JA. Oral Health and COVID-19: Increasing the Need for Prevention and Access. Prev Chronic Dis. 2020 Aug 13;17:E82. doi: 10.5888/pcd17.200266. Erratum in: Prev Chronic Dis. 2020 Aug 27;17:E93.
4. Sutapa P, Pratama KW, Rosly MM, Ali SKS, Karakauki M. Improving motor skills in early childhood through goal-oriented play activity. Children. 2021; 8(11): 994.
5. Mukhbitin F. Gambaran kejadian karies gigi pada siswa kelas 3 MI Al -Mutmainnah. Jurnal Promkes. 2018 ; 6 (2): 155 – 166
6. Lestari D, Mujiyati M. Hubungan peran orang tua dalam pemeliharaa kesehatan gigi dan mulut dengan karies gigi anak TK dan PAUD. Jurnal Kesehatan Gigi dan Mulut. 2019: 1(2); 40-44.
7. Li Z, Li Y, Liu C, Jiang H, Zhang C, Du M. An Online Cross-Sectional Survey on Oral Healthcare Among School-Age Children During COVID-19 Epidemic in Wuhan, China. Front Med (Lausanne). 2021 Jun 22;8:572217.
8. Liu C, Zhang S, Zhang C, Tai B, Jiang H, Du M. The impact of coronavirus lockdown on oral healthcare and its associated issues of pre-schoolers in China: an online cross-sectional survey. BMC Oral Health. 2021 Feb 6;21(1):54. doi: 10.1186/s12903-021-01410-9.
9. Campagnaro R, Collet GO, Andrade MP, Salles JPDSL, Calvo Fracasso ML, Scheffel DLS, Freitas KMS, Santin GC. COVID-19 pandemic and pediatric dentistry: Fear, eating habits and parent's oral health perceptions. Child Youth Serv Rev. 2020 Nov;118:105469. doi: 10.1016/j.childyouth.2020.105469.
10. Balafif ff, Susanto A, Wahyuni IS. Oral health assessment during covid-19 pandemic: community self-report questionnaire . JDS. 2021; 6(1): 50-55
11. Arrico CFM, Sillia JMA, Company JMM. Oral health knowledge in relation to educational level in an adult population in Spain. J Clin Exp Dent. 2019; 11: 143-150.
12. Menhadji P, Patel R, Asimakopoulou K, Quinn B, Khoshkhounejad G, Pasha P, Garcia Sanchez R, Ide M, Kalsi P, Nibali L. Patients' and dentists' perceptions of tele-dentistry at the time of COVID-19. A questionnaire-based study. J Dent. 2021 Oct;113:103782. doi: 10.1016/j.jdent.2021.103782.
13. Yüce MÖ, Adalı E, Kanmaz B. An analysis of YouTube videos as educational resources for dental practitioners to prevent the spread of COVID-19. Ir J Med Sci. 2021 Feb;190(1):19-26. doi: 10.1007/s11845-020-02312-5.