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Parental Knowledge, Attitude, and Practice towards Dental Care Visits for Children 6-12 Years of Age during the Covid-19 Pandemic Period

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ABSTRACT

Covid-19 is an infectious disease that is growing rapidly throughout the world. Dental care carries a risk of infection, as the procedure involves face-to-face communication with the patient, exposure to saliva, blood, other body fluids and the use of sharp instruments. Parents are afraid to take their children to visit the dentist because it will affect the child's oral and dental health. The aim of this study was to examine the relationship between parents' knowledge, attitudes and practices regarding children's dental care visits during the Covid-19 pandemic and parents' age and education level. Descriptive research with a cross-sectional design. The research subjects were 106 parents of children aged 6-12 years. Sampling was taken using the interview method with 11 questions. Analysis using Chi square. Research results: 26.4% of parents from the 30-39 year age group stated that dental care could cause children to be infected with the Covid-19 virus ($p<0.05$), based on the level of knowledge, parents with a postgraduate level of knowledge answered that dental care could cause 19.8% of children were infected with the Covid virus ($p<0.05$). There were no differences in parental attitudes based on age and parental education level in taking their children to the dentist ($p>0.05$). It was concluded that there was no relationship between age and parents' level of knowledge regarding children's dental care visits during the Covid-19 pandemic.

Keywords: Attitude; Covid-19; Dental and Oral Health; Parenteral Knowledge; Practice

ABSTRAK

Covid-19 penyakit menular yang berkembang pesat di seluruh dunia. Perawatan gigi membawa risiko infeksi , karena prosedurnya melibatkan komunikasi tatap muka dengan pasien, terpapar air liur, darah, cairan tubuh lainnya dan penggunaan alat tajam. Orang tua takut membawa anaknya berkunjung ke dokter gigi karena akan berpengaruh terhadap kesehatan gigi dan mulut anak. Tujuan penelitian ini adalah untuk melihat hubungan antara pengetahuan, sikap dan praktek orangtua terhadap kunjungan perawatan gigi anak selama pandemik Covid-19 dengan usia dan tingkat pendidikan orangtua. Penelitian deskriptif dengan rancangan cross-sectional. Subjek penelitian 106 orangtua dari anak berusia 6-12 tahun. Pengambilan sampel dengan metode wawancara dengan 11 pertanyaan. Analisis menggunakan Chi square . Hasil penelitian : 26,4% orangtua dari kelompok usia 30-39 tahun menyatakan bahwa perawatan gigi dapat menyebabkan anak terinfeksi virus covid-19 ($p<0,05$), berdasarkan tingkat pengetahuan, orangtua dengan tingkat pengetahuan pasca sarjana menjawab perawatan gigi dapat menyebabkan anak terinfeksi virus covid sebanyak 19,8% ($p<0,05$). Tidak ada perbedaan sikap orangtua berdasarkan usia dan tingkat pendidikan orangtua dalam membawa anak ke dokter gigi ($p>0,05$). Disimpulkan tidak terdapat hubungan antara umur dengan tingkat pengetahuan orang tua mengenai kunjungan perawatan gigi anak pada masa pandemi Covid-19.

Kata Kunci: Sikap; Covid-19; Kesehatan Gigi dan Mulut; Pengetahuan Orang Tua; Praktek

1. Introduction

Coronavirus disease 2019 (Covid-19) is a rapidly spreading infectious disease globally. The virus was first discovered in Wuhan, China, and is spreading rapidly around the world. On March 11, 2020, the World Health Organization (WHO) and Public Health Emergency of International Concern (PHEIC) declared Covid-19 as a pandemic. The number of confirmed cases as of December 23, 2020, reached 77,925,298 with 1,714,649 dead patients in 220 countries. In Indonesia, the first positive case was confirmed on March 2, 2020, and as of December 21, 2020, it reached 671,778 people with 20,058 confirmed deaths.[1,2]

In dental research, it has been revealed that a multitude of dental procedures results in the creation of aerosols and droplets carrying the virus. The significant concern lies in the potential transmission through these airborne particles, particularly within dental clinics and hospitals. Mitigating this risk proves challenging due to the substantial production of aerosols and droplets, which are often mixed with patients' saliva and even blood during diverse dental treatments. An additional factor contributing to this challenge is the use of a dental handpiece, which uses high-speed gas to propel a rotating turbine and operates in conjunction with running water. When handpiece is used in patients' oral cavity, it produces aerosols and droplets that mix with saliva or blood. Droplet and aerosol particles are quite small and will remain in the air for a long time before settling on environmental surfaces or entering the respiratory tract. Therefore, Covid-19 has a high potential to spread through droplets and aerosols from infected individuals in dental clinics and hospitals.[3,4]

In April 2020, the World Economic Forum publication used infographic data to identify occupational professions at high risk of Covid-19 exposure. The parameters discovered included close contact with others, physical contact, and frequent exposure to diseases and infections. Subsequently, dentists, dental assistants, and dental nurses emerged as the most at-risk occupations. The close proximity between dentists and patients, approximately 35-40 cm, along with time-consuming procedures, particularly with uncooperative children, heightens the risk of cross-infection.[5,6]

The research conducted by Farsi et al. found that parents are highly concerned about children contracting the virus at dental clinics and would only take them if it was an emergency.[6] Similarly, the research conducted by Sun J et al. at Shenzhen Maternity & Child Healthcare Hospital found that parents believe children are susceptible to Covid-19 during dental treatments. [7] Parents express concern, considering dental clinics as more dangerous than other public places. Some show a willingness to take children to dental clinics or hospitals during the Covid-19 pandemic, but only if dental conditions are severe. Meanwhile, others stated that they would not take children to dental clinics or hospitals. [7–9]

The role of parents in children dental health can be seen through attitude and attention to dental care, and they are very influential in shaping children behavior. According to the Indonesian Dental Association (Persatuan Dokter Gigi Indonesia/PDGI), maintaining children dental health includes interaction between children, parents, and dentists. [10] Attitude and behavior of parents, specifically mothers, in maintaining dental health has a significant influence on children behavior. [6] Parental attitude during the Covid-19 pandemic has negatively affected children dental care, leading to reported declines in oral health. Subsequently, issues such as toothaches, gum swelling, traumatic injuries, and extraoral swelling were reported in children during the period. [10] Campagnaro et al. reported that 86% of children who experienced dental trauma during the pandemic did not seek treatment. [11] Therefore, this research aimed to determine the relationship between parental knowledge, attitude, and practice towards dental care visits for children aged 6-12 years during the Covid-19 pandemic and with age as well as the education level of parents.

2. Methods and Materials

This research used an analytic approach in a cross-sectional design. The sample size was 106 parents who had children aged 6-12 years from Persiapan Bangsa Foundation Private School in Sunggal District, Deli Serdang (the minimal sample size was 96 and to avoid dropout, the samples were added for 10%). Purposive sampling was used targeting mothers with 6-12-year-old children willing to provide informed consent. Data were collected through interviews by asking 11 questions through a questionnaire. Before the research started, the questionnaire had been tested on 10 mothers and obtained a Cronbach's Alpha value of 0.7. Respondents were categorized based on age group and education level. The age group category of parents was divided into 3 namely: age group 20-29 years, 30-39 years, and >40 years (a division of the mothers age based Sun J et

al.)[7]. The education level of parents consisted of 4 categories, namely no school/elementary/junior high school, high school, diploma/S1, and postgraduate. Additionally, data were analyzed using the Chi-Square test with a significance level of p<0.05. The researcher submitted an approval sheet for the research implementation to the USU Faculty of Medicine of Research Ethics Commission based on existing ethics, with the number, NO: 1300/KEP/USU/2021.

3. Results

In this research, out of the 106 parents included, 68.9% of the questionnaires were completed by mothers. Based on the age group of parents, this research is almost balanced, as well as characteristics based on the level of knowledge which is also almost balanced (p=0.02) (Table 1).

Table 1. Characteristics of Parent Respondents Based on Gender, Age, and Education

No	Characteristics of Parents		Amount (n) (%)
1	Gender	Male	33 (31.1)
		Female	73 (68.9)
	Total		**106 (100)**
2	Age	20-29 Years old	34 (32)
		30-39 Years old	36 (34)
		>40 Years old	36 (34)
	Total		**106 (100)**
3	Parents' Education Level	Not in School, Elementary/Middle School	27 (25.5)
		High School	29 (27.3)
		Diploma / S1	27 (25.5)
		Postgraduate/Master/Doctorate/ Specialist	23 (21.7)
	Total		**106 (100)**

The results showed that 37.74% of parents reported consistently monitoring the development of Covid-19. In terms of parents age groups, those aged >40 years and in the 30-39 years category reported consistently following Covid-19 development at 47.22% and 44.44%, respectively, compared to 20.59% in the 20-29 years age group (p = 0.02). In the age group analysis, 51.9% of parents believed dental care could lead to Covid-19 infection. Specifically, parents aged 30-39 years expressed this concern at 77.78%, while those in the >40 years age group reported it at 44.44%, and the 20-29 years age group at 32.35% (p = 0.001) (Table 2).

Table 2. Respondents' data on attitude towards pediatric dental care visits during the Covid-19 pandemic based on parents' age.

No	Question	Answer	Age (Years Old)			p-value
		n (%)	20-29 n(%)	30-39 n(%)	>40n(%)	
	Are you following the progress of Covid-19?					
	A. Always	40 (37.74)	7 (20.59)	16 (44.44)	17 (47.22)	
1	B. Sometimes	62 (58.49)	26 (76.47)	20 (55.56)	16 (44.44)	0.02*

	C.Never	4 (3.77)	1 (2.94)	0 (0)	3 (8.33)	
	Did you explain Covid-19 to your child?					
	A. Always	51 (48.11)	11 (32.35)	20 (55.55)	20 (55.56)	
2	B. Sometimes	38 (35.85)	14 (41.18)	14 (38.89)	10 (27.78)	0.08
	C. Never	17 (16.04)	9 (26.47)	2 (5.56)	6 (16.66)	
	Do you think dental clinic environment is more dangerous than other public places?					
	A. Yes	41 (38.68)	10 (29.41)	19 (52.78)	12 (33.3)	
3	B. Maybe	36 (33.96)	13 (38.23)	12 (33.33)	11 (30.56)	0.14
	C. No	29 (27.36)	11 (32.35)	5 (13.89)	13 (36.11)	
	What is your perception if you hear the word dental clinic during the Covid-19 pandemic?					
	A. Very Dangerous	40 (37.73)	9 (26.47)	17 (47.22)	14 (38.89)	
4	B. Almost Dangerous	32 (30.19)	11 (32.35)	13 (36.11)	8 (22,22)	0.121
	C. Not Dangerous	34 (32.08)	14 (41.17)	6 (16.67)	14 (38.89)	
	Do you think dental treatment can cause you to get infected with the virus?					
	A. Yes	55 (51.89)	11 (32.35)	28 (77.78)	16 (44.44)	
5	B. Maybe	30 (28.30)	16 (47.06)	4 (11.11)	10 (27.78)	0.001*
	C. No	21 (19.81)	7 (20.59)	4 (11.11)	10 (27.78)	
	How do you think your child could have contracted the virus during dental treatment?					
	A. Medical tools used by dentists	36 (33.96)	8 (23.53)	18 (50)	10 (27.78)	
	B. Blood	5 (4.72)	2 (5.88)	0 (0)	3 (8.33)	
6	C. Dentist	21 (19.81)	15 (44.12)	1 (2,78)	5 (13.88)	0.000*
	D. Droplets or splashes of saliva	44 (41.51)	9 (26.47)	17 (47,22)	18 (50)	
	If your child had a toothache, would you take him to dental clinic?					
	A. Yes, of course	46 (43.40)	15 (44.12)	16 (44.44)	15 (41.67)	
7	B. If the pain is severe	55 (51.89)	19 (55.88)	18 (50)	18 (50)	0.636
	C. No	5 (4.71)	0 (0)	2 (5.56)	3 (8.33)	
	Given the choice, which of the following would you do before taking your child to dentist?					
	A. Request an appointment via mobile phone	46 (43.40)	10 (29.41)	20 (55.56)	16 (44.44)	
8	B. Just come directly	60 (56.60)	24 (70.59)	16 (44.44)	20 (55.56)	0.71
	c. Other	0 (0)	0 (0)	0 (0)	0 (0)	
	Dentist has taken protective measures in accordance with WHO recommendations, including examination of patients, disinfection of the clinic environment, and personal protective equipment for dentists and patients. Do these measures give you confidence to bring your child to dental clinic?					
	A. Yes	51 (48.11)	20 (58.82)	10 (27.78)	21 (58.33)	
9	B. Undecided	51 (48.11)	14 (41.18)	24 (66.67)	13 (36.11)	0.15

	C. No	4 (3.78)	0 (0)	2 (5.56)	2 (5.56)	
	Have you ever known telemedicine/teledentistry?					
	A. Yes, I have	60	19	23	18	
10		(56.60)	(55.88)	(63.89)	(50)	0,49
	B. Never	46	15	13	18	
		(43.40)	(44.12)	(36.11)	(50)	
	If you know, have you ever used it?					
	A. Yes, I have	41	12	16	13	
11		(38.68)	(35.29)	(44.44)	(36.11)	0.68
	B. Never	65	22	20	23	
		(61.32)	(64.71)	(55.56)	(63.89)	

The results showed that 34% of parents expressed concern that dentist's medical tools could cause transmission of the Covid-19 virus during treatment. Based on education level, 44.44% of parents had postgraduate education, 41.38% had high school education, 33.33% had no school/Elementary/Junior High School education, while parents with postgraduate education amounted to 13.04% (p=0.000). There were 56.6% of parents who knew about telemedicine/teledentistry, the highest education level group who knew about it was a diploma 88.89%, followed by the education level of no school/elementary/junior high school 48.25%, 47.83% postgraduate and high school at 41.38% (p = 0.001) (Table 3).

Table 3. Respondents' Data on Attitude towards Pediatric Dental Care Visits during the Covid-19 Pandemic Based on education level

No	**Question**	**Answer**	**Education Level**				**p-value**
			Not in school, elementary/junior high school n(%)	**High School n(%)**	**Diploma/S1 n(%)**	**Postgraduate, Masters, Doctoral and Specialist n(%)**	
	Are you following the development of Covid-19?						
1							0.0001*
	A. Always	40 (37.74)	4 (14.81)	7 (24.14)	14 (51.85)	15 (65.22)	
	B. Sometimes	62 (58.49)	19 (70.37)	22 (75.86)	13 (48.14)	8 (34.78)	
	C. Never	4 (3.77)	4 (14.81)	0 (0)	0 (0)	0 (0)	
	Did you explain Covid-19 to your child?						
							0,0001*
2	A. Always	51 (48.11)	6 (22.22)	9 (31.03)	20 (74.07)	16 (69.57)	
	B. Sometimes	38 (35.85)	7 (25.92)	18 (62.07)	6 (22.22)	7 (30.43)	
	C. Never	17 (16.04)	14 (51.85)	2 (6.90)	1 (3.70)	0 (0)	
	Do you think dental clinic environment is more dangerous than other public places?						
3							0.0001*
	A. Yes	41 (38.68)	0 (0)	8 (27.59)	14 (51.85)	19 (82.61)	
	B. Maybe	36 (33.96)	8 (29.63)	14 (48.28)	10 (37.04)	4 (17.39)	
	C. No	29 (27.36)	19 (70.37)	7 (24.14)	3 (11.11)	0 (0)	

	What is your perception when you hear the word dental clinic during the Covid-19 pandemic?					
4						0.0001*
	A. Very Dangerous	40 (37.73)	1 (3.70)	8 (27.59)	13 (48.15)	18 (78.26)	
	B. Almost Dangerous	32 (30.19)	3 (1.11)	13 (44.83)	11 (40.74)	5 (21.74)	
	C. Not Dangerous	34 (32.08)	23 (85.19)	8 (27.59)	3 (1.11)	0 (0)	
	Do you think dental treatment can cause you to get infected with the virus?					
5						0.0001*
	A. Yes	55 (51.89)	2 (7.41)	13 (44.83)	19 (70.37)	21 (91.30)	
	B. Maybe	30 (28.30)	11 (40.74)	12 (41.38)	5 (18.51)	2 (8.70)	
	C. No	21 (19.81)	14 (51.85)	4 (13.79)	3 (11.11)	0 (0)	
	How do you think your child could have contracted the virus during dental treatment?					
6						0.0001*
	A. Medical tools used by dentists	36 (33.96)	9 (33.33)	12 (41.38)	12 (44.44)	3 (13.04)	
	B. Blood	5 (4.72)	4 (14.81)	1 (3.45)	0 (0)	0 (0)	
	C. Dentist	21 (19.81)	11 (40.74)	7 (24.14)	3 (11.11)	0 (0)	
	D. Droplets or splashes of saliva	44 (41.51)	3 (11.11)	9 (31.03)	12 (44.44)	20 (86.96)	
	If your child had a toothache, would you take him to dental clinic?					
7						0.39
	A. Yes, of course	46 (43.40)	13 (48.15)	8 (27.59)	14 (51.85)	11 (47.83)	
	B. If the pain is severe	55 (51.89)	13 (48.15)	18 (62.07)	12 (44.44)	12 (52.17)	
	C. No	5 (4.71)	1 (3.70)	3 (10.34)	1 (3.70)	0 (0)	
	Given the choice, which of the following would you do before taking your child to dentist?					
8						0.0001*
	A. Request an appointment via mobile phone	46 (43.40)	3 (11.11)	9 (31.03)	16 (59.26)	18 (78.26)	
	B. Just come directly	60 (56.60)	24 (88.89)	20 (68.97)	11 (40.74)	5 (21.74)	
	C. Other	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	
	Dentist has taken protective measures in accordance with WHO recommendations, including patients, disinfection of the clinic environment, and personal protective equipment for dentists and patients. Do these measures give you confidence to bring your child to dental clinic?					
9						0.166
	A. Yes	51 (48.11)	17 (62.96)	12 (41.38)	14 (51.85)	8 (34.78)	

	B. Undecided	51 (48.11)	10 (37.04)	14 (48.28)	12 (44.44)	15 (65.22)	
	C. No	4 (3.78)	0 (0)	3 (10,34)	1 (3,70)	0 (0)	
	Have you ever known telemedicine/teledentistry?						
10							0.001
	A. Yes, I have	60 (56.60)	13 (48.25)	12 (41.38)	24 (88.89)	11 (47.83)	
	B. Never	46 (43.40)	14 (51.85)	17 (58.62)	3 (11.11)	12 (52.17)	
	If you know, have you ever used it?						
11							0.633
	A. Yes, I have	41 (38.68)	10 (37.04)	11 (37.93)	13 (48.15)	7 (30.43)	
	B. Never	65 (61.32)	17 (62.96)	18 (62.07)	14 (51.85)	16 (69.57)	

4. Discussions

The existence of Covid-19 affects various fields of life, specifically in the field of dentistry.[1] Among the 106 respondents who claimed to always follow Covid-19 development, 37.74% answered always, 58.49% answered sometimes, and 3.77% indicated they never followed. Based on age groups, parents with older age groups are more interested in following Covid-19 development than younger age groups (Table 2), while based on the level of education, parents with postgraduate education are most interested in following Covid-19 development (Table 3). In general, the results obtained are slightly different from Sun J et al. which found that 94.59% of respondents always follow the development of Covid-19,8 and 5.41% of respondents sometimes follow Covid-19 development.7 The difference between the two results is because the research by Sun J et al. was conducted in 2020 when the Covid-19 pandemic had just broken out in various countries. Therefore, the sense of parental vigilance against transmission of this virus was still very high. Meanwhile, in the research conducted by researchers in 2021 when the Covid-19 pandemic outbreak had passed one year the level of vigilance over transmission of this virus had decreased. [7]

In this research, 48.11% of parents always explained Covid-19 to children, 35.85% stated sometimes, and 16.04% never explained. Based on the level of parental education, parents with postgraduate and diploma/graduate education explained the most about Covid-19 to children compared to groups with lower education levels (Table 3). The results are almost similar to Sun J et al., which reported that 45.95% of parents always explain Covid-19 to children, sometimes 54.05%, and no parents stated that they never explained. [7] Covid-19 transmission is is not limited to adults alone, children can also easily contract this virus. Covid-19 task force reported that cases of the virus infection in school-age children accounted for 14% of the total cases in Indonesia. The most common age range is elementary school children with 49,962 cases reported. From the results of Covid-19 cases in children, a case fatality rate (CFR) or death case was also found, although the number of cases was not significant. [12] This shows parents vigilance toward children. They emphasize the dangers of Covid-19, promoting adherence to health protocols to prevent the transmission of the virus. [12]

Dental clinics are particularly susceptible to virus transmission, as dental procedures often generate aerosols and contaminated droplets, as shown by research. Covid-19 transmission through droplets and aerosols is an important concern in dental clinics and hospitals, as it is challenging to avoid the formation of large amounts of aerosols and droplets mixed with patients' saliva and blood during dental treatment. [3,4,13] In this research, 38.68% of respondents considered dental clinic environment more dangerous than other public places, while 33.96% of parents acknowledged potential danger, and 27.36% answered negatively. Based on the level of parental education, parents with postgraduate education stated that dental clinic environment was more dangerous than other places (Table 3). This is slightly different from other research, where 66.22% of respondents considered dental clinic environment as more dangerous than other public places. Additionally, 31.08% showed it might be dangerous, and 2.7% responded with a negative view. [8] According to the investigation, more respondents considered dental clinic environment more dangerous than other public places due to better socialization in the prevention of Covid-19 transmission in the country, the level of curiosity about the virus, and the level of compliance with health protocols. In contrast to this research, 27.36% did not

consider dental clinic environment more dangerous than other public places. The limited socialization on Covid-19 prevention at the nearby health facility, visible only through wall posters, is inadequate. Respondents expressing curiosity about transmission prevention suggests a need for more comprehensive awareness efforts. [3,4,8]

Doremalen et al found that Covid-19 can last for 72 hours on plastic and stainless-steel surfaces, 4 hours on copper, and 24 hours on cardboard. [14] This significantly affects respondents perceptions of dental clinic environment. [6] In this research, 37.73% of respondents considered dental clinics very dangerous, 30.19% answered almost dangerous and 32.08% were not dangerous. Farsi and Farsi found, in line with previous research, that 45.6% considered dental clinic environment more perilous than other public places, with this response being the most common. [6] This is because many places are also at high risk of transmitting Covid-19, such as places with the use of air conditioners with poor air exchange, for example, malls, public transportation, and practice rooms with air conditioners. [9]

Patients and dentists may be exposed to microorganism pathogens, including viruses and bacteria that infect the oral cavity and respiratory tract. Microorganism pathogens can be transmitted through dental treatments that require face-to-face communication with patients, direct contact with blood, and oral fluids.15 In this research, 51.89% acknowledged the possibility of children contracting the virus during dental treatment, 28.30% considered it possible, and 19.81% expressed the belief that children could not contract the virus during such treatment. Based on age group, parents in the 30-39 years had the highest rate of expressing concern about children contracting the virus during dental treatment, followed by the >40 years age group, with the least concern observed in the 20-29 years age group (Table 2). Based on the level of education, most parents stated that children could be infected with the virus during dental treatment, followed by postgraduate education, then followed by Diploma/S1, SMA and no parents with no school/Elementary/Junior High School education stated that children could be infected with the virus due to dental treatment (Table 3). This is in line with other research which stated that 91.89% of children could easily contract the virus during dental treatment, about 5.41% stated it was possible and about 2.7% stated it was not. The widespread dissemination of information through various mass media about the dangers of Covid-19, primarily transmitted through droplets, has shown parental anxiety about taking children to dental clinic, given that dental care procedures often include the generation of significant droplets.[5,8]

Covid-19 transmission in dental clinics primarily occurs through aerosols and the inhalation of droplets from infected individuals. Additionally, direct contact transmission may occur through close contact during treatments involving the mouth-nose area, as well as exposure to oral and body fluids from patients. The spread of Covid-19 through contaminated surfaces resulted from droplets and aerosols generated during dental treatment. These particles remain suspended in the air for a long time before settling on the surface in dental treatment area, including the surface of dental unit, dental instruments, dentist chair, and even on the floor around dental treatment area.[3,4,8,16] In this research, 41.51% of parents stated children could contract the virus during dental treatment through droplets or splashes of saliva, 33.96% stated through medical tools used by dentists, 19.81% stated through dentist 4.72% stated through blood. This is in line with other investigations, which stated that about 95.9% of children could contract the virus during dental treatment through droplets or splashes of saliva. This response emerged as the predominant concern among the majority of participants. This occurs because there has been a lot of information from various media regarding the various ways of Covid-19 transmission received by respondents.[8]

According to the Indonesian Dental Association (PDGI), maintaining children dental health includes interaction between children, parents, and dentists.[10] Attitude and behaviour of parents, specifically mothers, in maintaining dental health has a significant influence on childrens behavior. Subsequently, maintaining good oral health significantly enhances children's quality of life, serving as a crucial aspect of overall well-being and general health.[6,10] In this research, it was found that 43.40% would take children to dentist if they had a toothache, 51.89% would take children to dentist if the toothache was severe, and 4.71% would not take children to dentist during the Covid-19 pandemic. This is in line with other research, where approximately 83.78% of respondents showed they would seek dental care for children in the event of severe toothache during the Covid-19 pandemic, while 16.22% expressed hesitancy about taking their children to dentist during this period. This is due to the higher rate of virus transmission and dental clinic environment is the most high-risk place of transmission, which then causes the level of anxiety and concern among parents that their children can easily contract the virus during dental treatment, thereby they are afraid to take their children to dentist. [6,8,17]

Parents are advised to limit direct contact with others while seeking medical treatment. During the pandemic, both the public and dentists are promoted to minimize visits to health facilities, particularly dental clinics. Dentists are advised to prioritize cases based on the urgency of dental and oral issues, such as bleeding, bacterial infections leading to abscesses, and maxillofacial fractures. This approach aims to reduce the risk of Covid-19 transmission.[10,18] In this research, it was found that about 43.40% asked for an appointment via cell phone first before taking children to dentist, and about 56.60% just visited directly when taking children to dentist. The results are different from research in China, where 85.7% did online consultations in the form of photos first before taking children to dentist. [17] This is due to the influence of the total number of cases infected with Covid-19 in Wuhan and the source of the virus outbreak originating from Wuhan, thereby increasing vigilance to prevent transmission, specifically in dental clinic environment.

During the current Covid-19 pandemic, conventional procedures alone are not enough to prevent transmission and spread. Dentists and teams must maintain hand hygiene, use personal protective equipment, use rubber dams and high-volume evacuators to reduce airborne particles, disinfect clinics, and practice room management, and medical waste management. [4,8,15–17] In this research, 48.11% were confident in the steps taken by dentists in the form of patient screening, disinfection of the clinic environment, and disinfection of personal protective equipment for dentists and patients, 48.11% expressed doubts and 3.78% were not sure about the preventive measures taken by dentists. This is different from other investigations which stated that 81.08% of respondents were confident in the steps taken by dentists to prevent transmission. [6,15] It is possible that people in China believe in technology to prevent transmission in dental clinics.

The Minister of Health has made Circular Letter Number HK.02.01/MENKES/303/2020 concerning the implementation of health services through the use of information and communication technology in order to prevent the spread of Covid-19 dated April 29, 2020. The circular letter explained that health services should be carried out through telemedicine, [10] which is the provision of health services remotely by professional health service providers by using information and communication technology devices. In this research, 56.60% knew about telemedicine/teledentistry and 43.40% did not know. A significant number of individuals are unaware of telemedicine/teledentistry, attributed to uneven knowledge about this new method of accessing health facilities. Additionally, the promotion and socialization of telemedicine/teledentistry usage have not been fully optimized.

The Covid-19 pandemic has disrupted doctors' patient care activities, particularly in face-to-face interactions. The high level of transmission poses a significant risk to the health conditions of patients with chronic diseases, potentially endangering the lives. Doctors can leverage telemedicine technology for patient care interactions, mitigating the risk of transmission to patients and enhancing overall access to health services for the general public. In the conditions of the Covid-19 pandemic, telemedicine is needed in dense populations that have a high risk of transmission, such as in urban areas. Therefore, promotion related to the use of telemedicine can be a priority in pandemic conditions to minimize the risk of transmission through direct contact. [10,19] Covid-19 lockdown impact on healthcare services, particularly in the fields of medical and dental care, has been substantial. The limited availability of services during this period, along with the fear of contracting infections, had a significant effect on the healthcare needs of patients. The response and adaptability of individuals during this time varied, influenced by factors such as awareness levels, socioeconomic status, accessibility to services, and understanding the severity of the conditions. [20–22] In this research, 38.68% used telemedicine/teledentistry and 61.32% never used the method. The low use of telemedicine technology is a challenge for health workers to promote the use of other alternatives in care for patients. In order to prevent further problems in the future of oral health in children, the disease control protocols regarding social distancing in dental clinics should be precisely followed, and parents should be informed and reassured in this respect to decrease the cancellation rate of appointments. Furthermore, the infrastructure required for tele-dentistry should be created to form an efficient dentist-patient communication and perform the triage of patients remotely. [23] It was concluded that several research items found a relationship between age and level of parental knowledge on child dental care visits during the Covid-19 pandemic. Parents with older age groups have a better attitude in dealing with Covid-19 towards dental care than younger age groups, as well as the same thing, is obtained for parents with higher education levels than low ones.

5. Conflicts of Interest

The authors declare that there are no conflicts of interest to disclose concerning this study.

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