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Pediatric Dental Practice and Precautions Applied During The Covid-19 Lock-Down Period and Their Consequences On Pediatric Oral Health-A Web-Based Surveya Web-Based Survey On Covid-19 Lock-Down Period

Research Article

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Abstract

Objectives: To evaluate the pediatric dental practices and precautions taken during the period of COVID-19 outbreak and how could the decrease in oral health services lead to increase disk of oral problems such as the spread of dental caries, occlusal discrepancies and in appropriate antibiotic prescription in children.
Materials and Methods: A web-based survey was conducted to pediatric dental specialists in Egypt. An online questionnaire was used to collect data and a message explaining the purpose of the study was sent to all participants.
Results: 33.3% of respondents suspended their dental practice during this period, 41.1% performed only emergency treatment and 25.6% provided their regular preventive and therapeutic services. The estimated percentage of patients at high risk of caries from March to June was 2.4%, 2.8% and 3.52% respectively. Regarding occlusal discrepancies it increased from 1. 88% in March to 2.6% in July. Antibiotic prescription increased from 2.85% in March to 4.85% in July. There was a significant difference between the type of speciality and the percentage of participants not practicing dentistry.
Conclusion: Decreased dental practice and preventive services of paediatric dentists during the COVID-19 lock-down period estimated increase in caries risk, antibiotic prescription, and occlusal discrepancies in children. Good degrees of awareness of the COVID-19 precautions and infection-control measures among the pediatric dental practitioners in Egypt.

Keywords: Covid-19; Questionnaire; Pediatric Dental Practice; Pediatric Oral Health; Precautions.

Introduction

The world is now facing a global pandemic health crisis, which the etiologic factor is coronavirus 2 (SARS-CoV-2) [1]. On Jan. 31, 2020, the WHO declared COVID-19 crisis as a "Public Health Emergency of International Concern."

COVID-19 is transmitted through direct or indirect contact, mainly through respiratory droplets and splatter from contaminated saliva or blood [2, 3] Routine dental procedures are always accompanied by generating aerosols, which have been associated with the transmission of acute respiratory infections [4]. As the standard protective measures in daily clinical work are not effective enough to protect against the spread of COVID-19, especially when patients are in the incubation period, the dental professionals are in potentially high-risk situation.

Also, dental clinics are more prone to have potentially contaminated surfaces such as dental chairs, their handles, the spittoon, and dental instruments which are possible routes of transmission.

Although the mentioned pathways of transmission are common while dealing with any dental patient, pediatric dentists are even more susceptible to infection due to the use of removable

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space maintainers, auxiliary elements in fixed orthodontic therapies, such as the use of intermaxillary elastic bands, stainless steel crowns and pliers that increase the risks of contamination if handling is not carried out with extra precautions [5].

Moreover, pediatric dentists are facing another obstacle related to the child's difficulty to use personal protective equipment during dental visits. Last but not least the increase of infection risks can also be entailed by the direct contact with the paediatric patient guardiansas evidence supports that SARSCoV-2 is transmitted through air during the normal talking [5, 6].

That's why the pandemic has deeply affected the delivery of dental services and specially for the pediatric patients. Dental procedures during the lock down periodhave been restricted to emergency care only in almost all dental offices across the world [7].

These restrictions for the delivery of dental and preventive services to children may greatly affect their oral health which may lead to development of oral complications.

Therefore, the aim of this survey was to evaluate the paediatric dentist's practices and their extra precautions during this period of viral outbreak and to try to estimate the future consequences on the spread of dental caries (increase in DMF and dmf scores), occlusal discrepancies and increased antibiotic prescription which may affect children in their near future.

Materials and Methods

Study Population

The study population consisted of paediatric dental specialists who practice pediatric dentistry in Egypt, regardless of their place of work either in hospitals, health institutions or private clinics.

The sample size was calculated using the following formula:

$$n=Z^2P(1-P)/d^2$$

According to Kish, [8] with an expected prevalence of 5.5% and an expected precision (or margin of error) d = 4% with 95% confidence interval, the needed sample size was derived to be 300 subjects.

The sampling frame consisted of paediatric dental specialists graduated from Cairo University, Ain-Shams University and Alexandria University in Egypt. Specialists in pediatric dentistry have been included and that those who do not practice dentistry and those who do not work in Egypt were excluded.

The sample was randomly selected using the social media groups of paediatric dentists in Egypt including "TheEgyptian Society for Paediatric Dentistry and Children with Special Health Care Needs" and paediatric dental staff pages of the mentioned universities.

With in these groups, 400 dentists were randomly selected to participate in the study by their Facebook and WhatsApp profiles. Each participant was contacted individually to make sure that they were practicing paediatric dentistry in Egypt, and if not, it was immediately excluded.

Survey Instrument and Dissemination

A web-based, cross-sectional study was conducted using a survey instrument to obtain responses from paediatric dental specialists in Egypt during the third week of July 2020.

The questionnaire was developed after reviewing pertinent literature and the international guidelines published by the Centre for Disease Control (CDC) and WHO for cross-infection control in the dental practice [1-7,9] and a pilot study was conducted to validate the questionnaire with a focus group involving five postgraduate students in paediatric dentistry who were not included in the final survey.

The survey link was advertised to the target population and was opened for 7 days. A message explaining the purpose of the study and a link to "Google forms" electronic survey was sent to all target participants.

Content Of The Survey Instrument and Scoring System

The survey instrument was designed in English and comprised 47 closed-ended questions. The estimated participation time to complete the survey was about 15 minutes. The 47-item questionnaire was divided into three parts: demographic data and practice characteristics (4 items), consequences of COVID-19 lock-down period on delivery of oral services (17 items), the safety measures applied since the Lock-down period (26 items).

The first part included questions about age, gender, level of speciality in paediatric dentistry and place of work. The second part assessed delivery of oral services during COVID-19 lock-down period and started with a question whether participants are still practicing paediatric dentistry on regular basis.

Participants who were still practicing paediatric dentistry and those who were managing emergency cases only were asked questions about their preference in management of emergency cases during the lock-down period including the frequency of extractions and antibiotic prescription.

Participant who were still practicing dentistry on regular basis were asked questions to assess their approach toward preventive dentistry such as recording caries risk and diet history analysis, topical fluoride application and pits and fissure sealants. Another group of questions assessed the frequency of using different treatment modalities for restoring carious vital and non-vital primary teeth as well as the frequency of using different types of restorations.

The third part of the questionnaire assessed safety measures and special precautions applied by the participants during COVID-19 lock-down period and included questions about infection control measures used for the patients and dental staff before and during dental appointment and whether the practitioner would perform general anaesthesia sessions during the pandemic time if needed. Questions assessing whether the practitioners noticed an increase in patients' anxiety and whether patients preferred to cancel their appointments in order to avoid the risk of infection were also included.

The responses to the questions varied in format and consisted of dichotomous responses (i.e. Yes/No) and 4 point Likert type scales such as always (on a daily or weekly basis), sometimes (maximum twice a month), rarely (maximum once during the lock-down period) and never. Some questions allowed multiple responses. Non-respondents were reminded to participate in the survey a second time after 2 days.

Data Analysis

The collected data were coded, validated, and statistically analysed using IBM SPSS statistics (Statistical Package for Social Sciences) software version 22.0, IBM Corp., Chicago, USA, 2013. Descriptive analysis was applied for quantitative parametric data, while it was done for qualitative data as number and percentage.

Inferential analyses for independent variables were done using Chi square test for differences between proportions and Fisher's exact test for variables with small expected numbers.

The level of significance P value of less than 0.05 was considered statistically significant, otherwise is non-significant.

Ethical Considerations

Confidentiality of personal information was maintained throughout the study by making participants' information anonymous and asking participants to provide honest answers.

Eligible paediatric dental practitioners' participation in this survey was voluntary and not compensated. Electronic informed consent was declared on the first page of the survey. The study was conducted following the Declaration of Helsinki as revised in 2013. The study was performed according to the Checklist for Reporting Results of Internet E-Surveys (CHERRIES) guidelines.

Ethical approval was obtained from the ethical committee of faculty of dentistry, Ain-Shams University.

Results

Although sample size was derived to 300 participants, 400 participants were asked to participate in the survey to compensate for non responses.

A total of 309 [252 (81.6 %) male and 57 (18.4%) female] pediatric dental practitioners responded to the survey out of 400 targeted individuals for an overall response rate of 77.2%. Demographic characteristics of the respondents are given in Table 1.

The distribution of the study group regarding consequences of the lock-down period on dental practice is shown in Tables 2a, 2b, 2c, and 2d.

Table 1. Distribution of the studied subjects regarding their demographic data.

Age	Number "n = 309"	Percent
- 25–34	206	66.7
- 35–44	83	26.9
- 45–54	11	3.6
- 55–64	9	2.9
Gender		
Male	252	81.6
Female	57	18.4
Level of specialty in pediatric dentistry		
- MDs	232	75.1
- PhD	46	14.9
- Associate professor	10	3.2
- Professor	21	6.8
Practice work		
- Hospital/institution	65	21.0
- Private practice	75	24.3
- Both	169	54.7
Total	309	100.0

Table 2a. Distribution of the study group regarding consequences of the Lock-down Period on Dental Practice.

1. During the Lock-down period from 15th of March up till now, are you currently practicing dentistry.	Number	Percent
Yes	79	25.6
No	103	33.3
Emergency cases only	127	41.1

Table 2b. Distribution of the study group regarding management of emergency cases during the Lock-down Period.

Management of emergency cases	Number	Percent
1. How would you identify emergency cases		
- Severe pain	188	91.3
- Infection	141	68.4
- Trauma	150	72.8
- Others	18	8.7
2. Do you prefer extraction 'as an emergency treatment' rather than pulp therapy to limit the interaction time		
Yes	61	29.6
No	145	70.4
3. Pulpotomy		
Always	41	19.9
Sometimes	96	46.6
Rarely	35	17
Never	34	16.5
4. Pulpectomy		
Always	7	3.4
Sometimes	90	43.7
Rarely	59	28.6
Never	50	24.3
5. Extraction		
Always	29	14.1
Sometimes	123	59.7
Rarely	30	14.6
Never	24	11.7
6. Antibiotic/Analgesic prescription only for emergency cases		
Always	44	21.4
Sometimes	113	54.9
Rarely	36	17.5
Never	13	6.3
7- Do you accept to treat an emergency case if the patient has fever or flu like symptoms		
- No(refer the patient to the hospital without treating them)	66	32.0
- Yes, with extra precaution(refer the patient to the hospital after treatment)	15	7.3
- Control the case with medication till	125	60.7

The respondents were questioned whether they were still practicing pediatric dentistry during the Lock-down period. About 41.1% of the respondents restricted their practice to emergency cases, and 33.3% were not practicing dentistry in regular basis. The respondents were asked about the frequency of using emergency treatment options in their practice. More than half of the respondents recorded using extractions and antibiotics as an emergency treatment. 60% of the respondents used medications only to control cases with fever.

74.4% of the respondents do not deliver preventive services and when the remaining percent were asked about preventive measures frequently applied in their practice during the Lock-down period; only (40%) of the respondents gave individualized preventive instructions to their patients whereas (6%) performed caries risk analysis.

Respondents were asked questions about the frequency of using different therapeutic procedures to their patients. About 40% of the respondents recorded that they only sometimes use space maintainers where as about 9% recorded using space maintainers regularly with their patients. About 60% of the respondents had to postpone the treatment of Covid-19 suspected patients and about 53% preferred watch-full waiting until exfoliation as a treatment option for their patients.

Tables 3a and 3b showed the distribution of different measures applied for precaution since the lock-down period. The majority

Table 2c. Distribution of the studied group regarding applying preventive procedures during the Lock-down Period.

Preventive procedures	Number	Percent
Which of the following preventive procedures do you perform to your patients since the (lock-down period (more than 1 answer can be selected)		
1- Caries risk analysis	5	6.3
2- Diet history analysis	10	12.7
3- Topical fluoride application	20	25.3
4- Pit & fissure sealants	12	15.2
5- Individualized preventive instructions	32	40.5
6- None	0	0

Table 2d. Distribution of the study group regarding performing therapeutic procedures during the lock-down period.

Therapeutic procedures	Number	Percent
1. Composite resin restorations		
Always	9	4.4
Sometimes	57	27.7
Rarely	77	37.4
Never	63	30.6
2. Glass ionomer restorations		
Always	69	33.5
Sometimes	69	33.5
Rarely	27	13.1
Never	41	19.9
3. Space maintainers after extraction		
Always	18	8.7
Sometimes	45	21.8
Rarely	84	40.8
Never	59	28.6
4. Postpone treatment of suspected patients		
Always	129	62.6
Sometimes	56	27.2
Rarely	14	6.8
Never	7	3.4
5. Watch-full waiting until exfoliation		
Always	48	23.3
Sometimes	109	52.9
Rarely	29	14.1
Never	20	9.7

of the respondents frequently clean hands by using alcohol-based hand rub or soap and water (92.7%), routinely clean and disinfect surfaces in contact with known or suspected patients (90.8%), use dental goggles (70.4%), face-shield (86.9%), and wear gowns (79.6%). Regarding precautions taken for the patients, most of the respondents recorded offering alcohol-hand sanitizers to patients and parents (92.2%), seat the patients in an adequately ventilated waiting area (71.8%), keep a spatial separation of at least 1 meter is between patients (71.4%) and restrict the number of accompanying persons in the operating room (87.9%). The majority of the respondents (97.1%) had to decrease the number of appointments per day compared to their normal schedule and (47.6%) refused to perform general anaesthesia sessions during the pandemic time, where as (63.1%) recorded that patients cancelled their appointments in order to avoid the risk of infection. Moreover, about 73.5% noticed an increase in patient's anxiety than before.

Estimation of number of patients/10,000 person population was calculated from each paediatric dentist's clinical data during this period in relative to the one last year the gap between the two numbers was the estimated number of cases with high risk factors lost due to the lock-down period from 15th of March till 15th of July.

Table (4), showed the estimated number of patients with high risk

Table 3a. The distribution of different measures applied for precaution before dental procedures.

	Number	Percent
For the dental staff		
frequently clean hands by using alcohol-based hand rub or soap and water	191	92.7
Routinely clean and disinfect surfaces in contact with known or suspected patients	187	90.8
Dental goggles	145	70.4
Double masks	121	58.7
Special masks	123	59.7
Double gloves	123	59.7
Face-shield	179	86.9
Gown	164	79.6
Head-cap	141	68.4
Over-shoes	114	55.3
For the patients		
Measure temperature for all patients and accompanying persons	109	52.9
Offering alcohol-hand sanitizers to patients and parents	190	92.2
Ask patients questions about the health status and history of contact or travel	164	79.6
Put facemask on known or suspected patients	100	48.5
Patients are placed in an adequately…	148	71.8
A Spatial separation of at least 1 meter is maintained between patients	147	71.4
Restrict number of accompanying persons	181	87.9

of caries each month per 10,000 person of normal population, the mean number for the lock-down period (from 15th of March till 15th of July) was 270 person/10,000 (2.7%).

Table (5) showed the estimated number of cases at high risk of occlusal discrepancies due to the Lock-down period from 15th of March till 15th of July.

Table (6) showed the estimated number of cases at high risk of antibiotic prescription due to the Lock-down period from 15th of March till 15th of July.

Table (7), shows the relation between Level of specialty in pediatric dentistry and some other variables. Regarding the relation between level of specialty and currently practicing dentistry, it was found that the majority of professors suspended practicing dentistry, while only 30.6% of MDs were not practicing dentistry at the time of the survey. There was a significant difference between the levelof specialty and the percent of practicing dentistry.

The results also revealed that the majority of MDs preferred extraction compared to the other study groups. The antibiotic/analgesic prescription for emergency showed statistically significant increase in MDs followed by PhD, and was significantly lower in professors and assistant professors.

Discussion

The present paper aims to report the dynamics of paediatric dentists and the extra precautions taken by them in Egypt during the first phase of the COVID-19 pandemic.

For this purpose, a questionnaire was designed using closed-ended questions to gather the information needed during the COVID-19 outbreak. As it was proven that questionnaire-based studies are the most accepted method for gathering information regarding preferences, attitudes, opinions, and experiences of participants [9]. The questionnaire was validated using four authentic tests; content, face and criterion validity.

Large number of paediatric dentists are frightened of getting infected by their patients or co-workers and this was shown in our results as about 103 (33.3%) of the paediatric dentists refused to provide any treatment during this period of time and 127 (41.1%) performed only emergency treatment. This response is like the perception of rest of the population as most of individuals are fearful of getting infected in the community in the presence of a rapidly developing epidemic [10]. As COVID-19 virus has rapidly infected many individuals all around the world, that's why the fear of getting infected by a patient is justified.

There was a dramatic reduction in patient attendance to dental clinics as about 63% of the parents cancelled their appointments, that can be explained by parents refraining from coming to their children's appointments in order to avoid the risk of infection in order to protect themselves and their children. It is worth mentioning that also dental treatment under general anaesthesia or sedation has decreased.

Our results also showed that there was a tremendous decline of the preventive services delivered to the paediatric patients as only 76(25.6%) of thepaediatric dentists provide preventive services to their patients, Unfortunately, this may cause oral health problems to arise even when dental practices are opened. Without access to preventive or palliative dental care, pain caused by dental abscesses or periodontal infections may become more prevalent [7]. Decayed teeth that could be repaired with a simple filling may

Table 3b. The distribution of different measures applied for precaution during dental procedures.

	Number	Percent
During dental procedures		
Avoid/ Minimize the use of 3-way syringe	200	97.1
Avoid/ Minimize using rotary instruments	202	98.1
Shift to hand instrument to minimize the splatter	179	86.9
Use extra-oral radiographs instead of intraoral radiographs	84	40.8
Use rubber dam isolation	116	56.3
Did you decrease the number of appointments per day compared to your normal schedule?		
Yes	200	97
No	6	2.9
Did you notice that patients are more anxious than before?		
Yes	147	71.3
No	16	7.7
Maybe	43	20.8
Would you perform general anaesthesia sessions during the pandemic time if needed		
Yes	50	24.2
No	102	49.5
Maybe	54	26.2
Did you noticed patients cancelling their appointments in order to avoid the risk of infection		
Yes	130	63.1
No	76	36.8

Table 4. Estimated number of cases at high risk of caries due to the Lock-down period from 15th of March till 15th of July.

Cases / 10,000 person	Number	Percept
15 March - 15 April	240	2.4
15 April - 15 May	285	2.85
15 May - 15 June	352	3.52
15 June - 15 July	205	2.05

Table 5. Estimated number of cases at high risk of occlusal discrepenciesdue to the Lock-down period from 15th of March till 15th of July.

Cases / 10,000 person	Number	Percept
15 March - 15 April	188	1.88
15 April - 15 May	195	1.95
15 May - 15 June	220	2.2
15 June - 15 July	260	2.6

deteriorate, requiring more costly treatment when clinics reopen.

In this study we tried to estimate the impact of depriving paediatric patients from preventive and normal restorative treatment and how this will affect the spread of caries,by calculating number of patients/10,000 person population from each paediatric dentist's clinical data during this period in relative to the one last year, the gap between the two numbers was the estimated number of cases with high risk factors lost due to the lock-down period from 15th of March till 15th of July. Our results showed that about 2.4% were at high risk of developing caries through the period from 15 March to 15 of April, 2.8% from 15 of April to 15 of May, and increased to 3.52% from 15 of May to 15 of June [11].

These results seem logic as according to the American academy of pediatric dentistry access to care is one of the most used caries risk indicators [12].

Also we tried to estimate number of cases at high risk of occlusal discrepancies as many pediatric dentists in our survey prefer

Table 6. Estimation number of cases at high risk of Antibiotic prescription due to the Lock-down period from 15th of March till 15th of July.

Cases / 10,000 person	Number	Percept
15 March - 15 April	285	2.85
15 April - 15 May	296	2.96
15 May - 15 June	365	3.65
15 June - 15 July	485	4.85

Table 7. Relation between Level of specialty in pediatric dentistry and some other variables.

	MDs		PhD		Associated professor		Professor		Total	X^2
	"n=232"		"n=46"		"n=10"		"n=21"			P value
	No.	%	No.	%	No.	%	No.	%		
Currently practicing dentistry										
Yes	60	25.9	14	30.4	2	20.0	3	14.3	79	
No	71	30.6	15	32.6	4	40.0	13	61.9	103	12.52
Emergency cases only	101	43.5	17	37	4	40.0	5	23.8	127	0.013*
prefer extraction	MDs		PhD		A. professor		Professor			
	"n=161"		"n=31"		"n=6"		"n=8"			
Yes	54	33.5	5	16.1	2	33.3	0	0.0	61	14.8
No	107	66.5	26	83.9	4	66.7	8	100.0	145	0.002*
Antibiotic/Analgesic prescription for emergency										
Always	39	24.2	3	9.7	1	16.7	1	12.5	44	10.89
										0.017*
Sometimes	97	60.2	12	38.7	2	33.3	2	25.0	113	
Rarely	23	14.3	9	29.0	1	16.7	3	37.5	36	
Never	2	1.2	7	22.6	2	33.3	2	25	13	

extraction 'as an emergency treatment' rather than pulp therapy and without constructing space maintainer to limit the interaction time and number of visits during the Lock-down period from 15th of March up till now, space maintainer or saving exposed primary tooth that can act as a natural space maintainer may potentially eliminate the consequences of loss of arch length and the need for complex orthodontic treatment at a later stage [13].

The percent of paediatric patients who are at risk, increased from 1 .88% through the period from 15 March to 15 of April to be 2.6% through the period from 15 June - 15 July as pediatric dentists who chose rarely 84(40.8 %) or never 59(28.6%) to construct space maintainer.

This result goes with the study done by Macena MC et al. (2011) that showed that premature loss of deciduous molars in a group of Brazilian children exhibited significant dimensional alterations during the follow-up. The findings emphasized the importance of constructing space maintainers [14].

The increasing antibiotic-resistance problem in recent years is probably related to the over-or misuse of broad-spectrum agents, such as cephalosporins and fluoroquinolones, [15] that's why we should follow the evidence provided by literature about adequate prescribing of antibiotic during dentists practices, therefore we also aimed to estimate number of cases at high risk of antibiotic or analgesics prescription due to misuse only to relief the signs and symptoms in case of emergency to avoid the direct contact with patients. And we found that the percent of paediatric patients who are at risk increased from 2.85% through the period from 15 March to 15 of April to 4.85% through the period from 15 June - 15 July.

What we noticed in this study is that all of the participants were aware of the COVID-19 similarly, and of the current guidelines published by the Centre for Disease Control (CDC) and WHO for cross-infection control in the dental practice [16]. As such information and procedures are critical to follow during dental practice in order to face this pandemic and thismight be related to the plenty of information in the mass media and social media. Moreover, the safety measures that have been taken by the administrates of Egypt had increased the sense of the criticalness of the situation among the general population [17].

From the precautionary practices which we should stress on it among dentists is the use of special masks and the use of goggles

as only 59.7% used special masks and 70.4% used goggles but this may be compensated by the use of face shield as 86.9% used face shield.

The attitude of dentists regarding what to do in case of patient having fever or flu like symptoms in clinics varied; 60.7% would refer the patient to the hospital without treating them, 32% would refuse treatment, and 7.3% would treat the patient with extra precaution and then refer them to the hospital. This results slightly differ than the study done by Khader Y, Al Nsour M, Al-Batayneh OB, et al.(2020) [18].

During this outbreak of COVID-19, dentists should evaluate risk of transmission through measurement of body temperature of every child, guardian and staff as a routine procedure, but in our study only 52.9% of the participants who measured the temperature for their patients and their accompanying persons, and this may increase their risk of infection. Patients also should be asked about their health status and any history of recent contact or travel [19]; in our study about 79.6 % performed that.

Results also showed that there was a significant difference between the different types of specialty and the percent of participants not practicing dentistry as during the COVID lock down, the majority of professor are not currently practicing dentistry, while only 30.6% of MDs are not currently practicing dentistry, this might be explained that private clinics for young paediatric might be their only source of income that's why they are obliged to practice their own work due to economicreasons [19].

Also, the majority of MDs prefer extraction as an emergency treatment in the different studied specialty group, this is certainly to decrease the interaction time. Lastly, the antibiotic/analgesic prescription for emergency was highly significant increase in MDs group followed by PhD, and was significantly lower in professor and assistant professor and also this seem logic due to limited knowledge of MDs group in comparison to that of assistant professors and professors.

Therefore, not only are meticulous and highly effective infection control protocols urgently needed in the paediatric dental clinics during the pandemic of COVID-19 to protect providers, guardians and young patients, but it is also essential to work on remote communication and education aimed at maintaining the oral health of children.

Conclusion

With in the limitations of this study, There was a decrease in dental practice and preventive services during the COVID-19 lockdown period that may consequently increase the spread of caries, increased extractions-as an emergency treatment-without space maintenance may lead to future increase in occlusal discrepancies among children, More overnumber of cases at high risk of antibiotic or analgesics prescription increased due to the misuse in case of emergency to avoid the direct contact with patients there was Good degrees of awareness of the COVID-19 precautions and infection-control measures among the pediatric dental practitioners in Egypt.

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