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Barriers to the Accessibility of Emergency Pediatric Dental Care Services during the COVID-19 Pandemic: A Qualitative Study in Mashhad, Iran

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ABSTRACT

Objectives: The aim of this study was to investigate barriers to the accessibility of emergency pediatric dental care services during the coronavirus disease 2019 (COVID-19) pandemic from the viewpoint of parents in Mashhad, Iran.

Materials and Methods: A qualitative study was conducted on a purposive sample of parents seeking emergency dental care for their children during the COVID-19 pandemic. Data were collected through semi-structured face-to-face interviews. The participants were asked, "Were there any barriers encountered when seeking emergency dental care for your child during the COVID-19 pandemic?". If any barrier was faced, the parents were asked to explain about it. All interviews were recorded and transcribed verbatim. The thematic content analysis of the transcripts began after the first interview, and the interviews and analysis process continued until data saturation was achieved.

Results: In total, 26 parents were interviewed. The thematic content analysis of the transcripts led to the recognition of three main categories of barriers: "fear of COVID-19", "financial constraints", and "dentists' less occupational activity". "fear of COVID-19" had two subcategories: "fear of contracting COVID-19" and "fear of transmitting COVID-19 to others". "financial constraints" also had two subcategories: "increased costs" and "decreased income".

Conclusion: From the viewpoint of parents seeking emergency dental care for their children in Mashhad, Iran, there were various barriers to the accessibility of emergency pediatric dental care services during the COVID-19 pandemic. The barriers were not limited to the fear of COVID-19 and were partly outside the control of dentists and parents.

Keywords: Pediatric Dentistry; Emergency Medical Services; Health Services Accessibility; COVID-19; Qualitative Research; Iran

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INTRODUCTION

The Coronavirus disease 2019 (COVID-19), which can lead to acute respiratory distress syndrome, became a pandemic and created challenges and concerns for all individuals, especially those seeking health care services. COVID-19 is caused by Severe Acute Respiratory Syndrome- Coronavirus 2 (SARS-CoV-2), and its first case was reported in Wuhan, China on December 31, 2019. The World Health Organization (WHO) announced a public health emergency of international concern for COVID-19 on January 30, 2020, and a pandemic situation on March 11, 2020. [1]

The common transmission routes of SARS-CoV-2 include direct transmission by respiratory droplets and aerosols generated mainly during coughing or sneezing and

indirect transmission through the contact of oral, nasal, or ocular mucous membrane with contaminated surfaces [2]. Dental procedures are associated with a high risk of disease transmission between dental clinicians, office staff, and patients due to aerosol generation and close respiratory contact.

Evidence shows that COVID-19 often has a milder course and more favorable outcome in children. Therefore, due to mild clinical signs and symptoms in children, the disease may remain undetected or may be misdiagnosed in the early stages. Since COVID-19 can be transmitted from asymptomatic carriers to others, children can play an important role in the transmission of COVID-19. [3,4]

The health authorities developed several guidelines for dental clinicians during the COVID-19 pandemic. In Iran, like many other countries, dental care services were limited to emergency dental treatments during the pandemic, and the Ministry of Health and Medical Education, in collaboration with the Iranian Dental Association developed a guideline for emergency dental care during the COVID-19 pandemic [5]. In that guideline, emergency dental treatments were categorized into four groups as follows:

(I) Alleviation of pain (pulpotomy, dry socket treatment, tooth extraction, endodontic therapy, treatment of a broken restoration or tooth with sharp edges, and management of an avulsed tooth)

(II) Infection control in patients with advanced or progressive infections (abscess drainage)

(III) Bleeding control (post-extraction bleeding, and suturing the perforations and lacerations)

(IV) Potentially threatening conditions (cementation of loose crowns or bridges, removal of non-absorbable sutures, correction of partial or complete dentures that have caused pain and discomfort for patients, rebonding of debonded orthodontic brackets, taking a biopsy from lesions suspected of malignancy, and assessment of suspected swellings in the maxillofacial region)

The pandemic situation caused numerous challenges to dental offices and clinics worldwide, especially in countries such as Iran, which were widely affected by the COVID-19 pandemic. On the other hand, since the end of the pandemic could not be predicted with certainty, all dental procedures could not be postponed for an indefinite period. Parents also encountered numerous difficulties accessing dental care for their children during this pandemic. Thus, finding the main barriers to access to pediatric dental care, especially emergency services, during the COVID-19 pandemic seemed imperative. Such knowledge can help eliminate obstacles and adopt purposeful strategies to improve the accessibility and quality of pediatric dental services in such difficult times.

Considering the barriers encountered by patients seeking dental care services during the COVID-19 pandemic, and scarcity of qualitative studies on this topic, this study aimed to investigate barriers to the accessibility of emergency pediatric dental care services during the COVID-19 pandemic from parents' viewpoint in Mashhad, Iran.

MATERIALS AND METHODS

This qualitative study was conducted from February 2021 to December 2021 by interviewing a purposive sample of parents seeking emergency dental care for their children during the COVID-19 pandemic. The sample was selected from parents who attended 12 dental clinics providing pediatric dental services in Mashhad. Figure 1 presents the geographical dispersion of the clinics on the map of Mashhad.

The inclusion criteria were (I) being one of the parents of a child requiring emergency dental care services during the COVID-19 pandemic, (II) residing in Mashhad, (III) being willing to participate in the study, and (IV) signing the written informed consent form for participation in the study and recording of the interview.

The participants were first informed of the study objectives, and their informed consent was obtained after they were assured of the confidentiality and anonymity of the information. Data were collected through semi-structured face-to-face interviews conducted at the dental clinics. The participants were asked, "Were there any barriers encountered when seeking emergency dental care for your child during the COVID-19 pandemic?". If the parents faced a barrier (i.e., all participants of this study), they were asked to explain the barrier. All interviews were recorded and transcribed

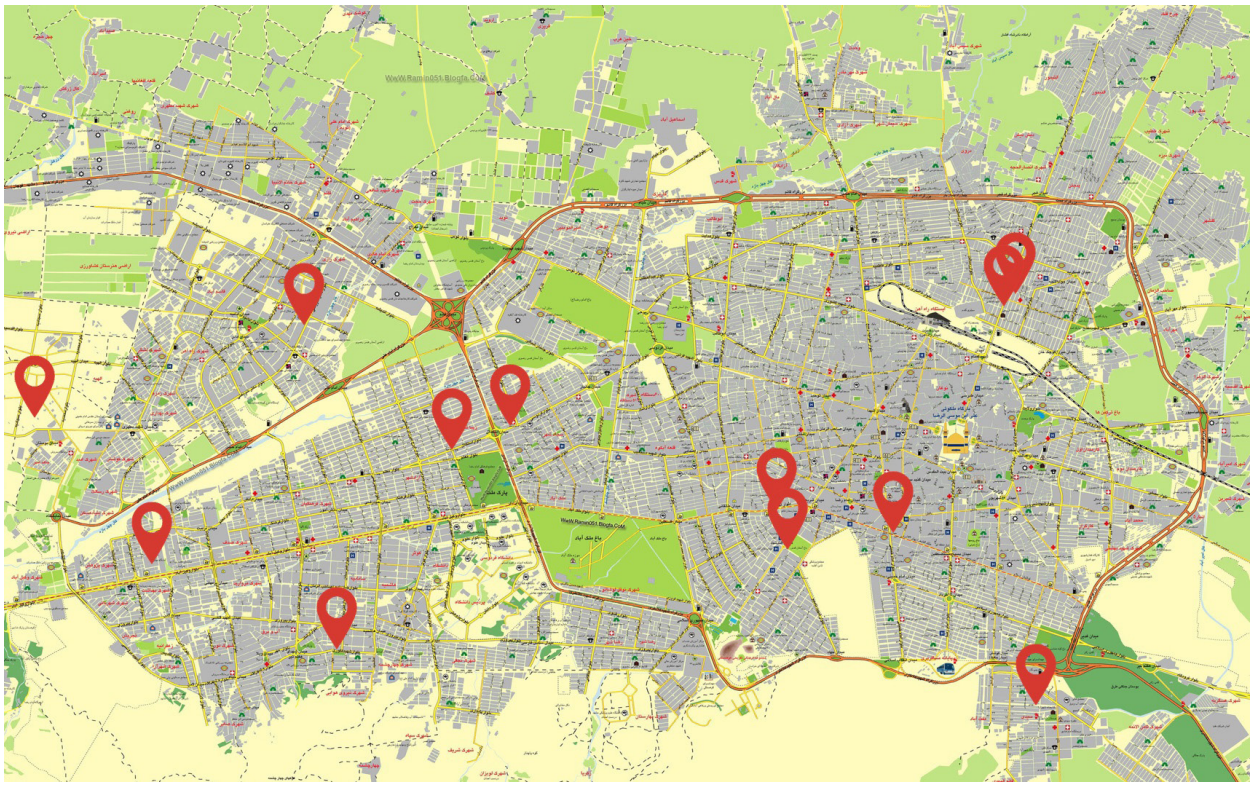

Fig. 1. The geographical dispersion of the clinics where the 26 participants were interviewed on the map of Mashhad, Iran

verbatim. The thematic content analysis of the transcripts began after the first interview, and interviews and the analysis process continued until no new theme emerged and data saturation was achieved [6,7].

The study protocol was approved by the ethics committee of Mashhad University of Medical Sciences (IR.MUMS.DENTISTRY.REC.1399.155).

RESULTS

A total of 26 parents were interviewed. The mean age of their children was 5.9 years (minimum 4, maximum 10), and about 38% of the children were female. Finally, by thematic content analysis of the transcripts, the barriers to the accessibility of emergency pediatric dental care services during the COVID-19 pandemic in Mashhad were grouped into three main categories (two of them have some subcategories). Figure 2 shows all the main categories and subcategories.

The following sections explain the categories and subcategories in more detail, and provide some examples derived from the transcripts. The categories and subcategories have been mentioned in order of the frequency of repetition of their related codes in the transcripts.

Fear of COVID-19:

When asked about the barriers to the accessibility of emergency pediatric dental care services during the COVID-19 pandemic, many of the parents disclosed a sense of fear of COVID-19 in different forms. "Fear of COVID-19" had two subcategories: "fear of contracting COVID-19" and "fear of transmitting COVID-19 to others".

Fear of contracting COVID-19:

- Many of the parents feared that their child may contract COVID-19 in the dental environment. Some related quotes are as follows:

"The dental clinician may not be infected by COVID-19; but how about other patients? One of them may be infected or may be an asymptomatic carrier. The infected patient also breathes in the same air, and has to keep his/her mouth open during the procedure …. All these scare you, and make you not want to take your child to a dental clinic." (Participant No. 22)

"Since the doctor is in close contact with patients during procedures, infection transmission from the clinician or even assistants to dental

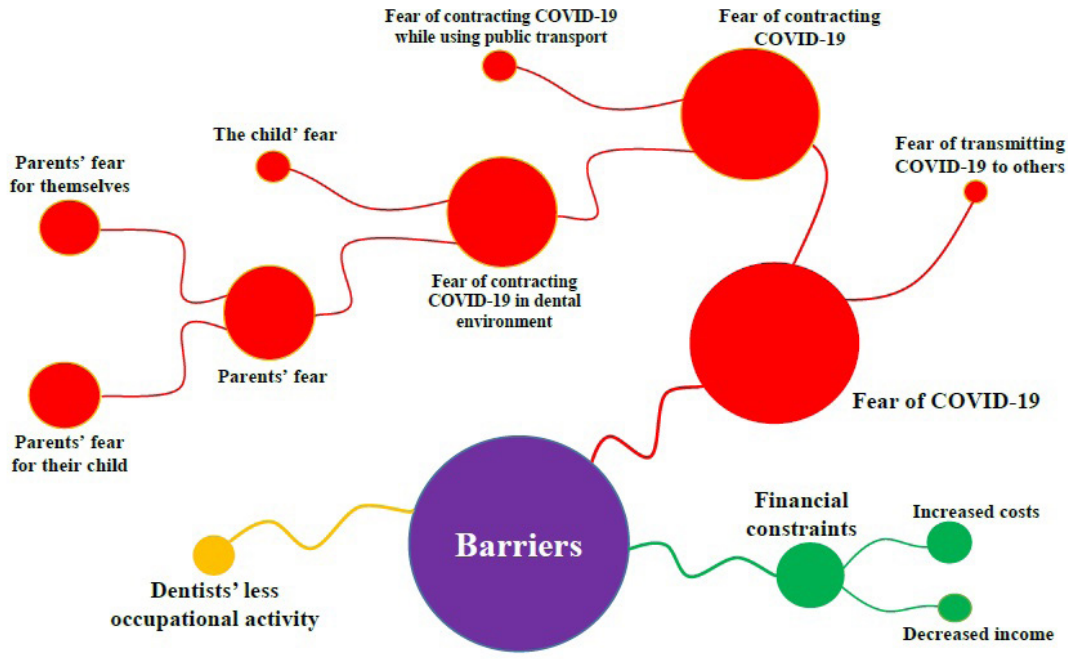

Fig. 2. The barriers to the accessibility of emergency pediatric dental care services during the COVID-19 pandemic from parents' viewpoint in Mashhad, Iran. (the diameter of the circles is proportional to the number of times each item was repeated in the interviews)

patients is possible. Also, a high number of patients are present in the office, who can transmit the disease." (Participant No. 25)

"Well, the nature of dentistry is in such a way that there is much direct contact with patients' mouth, and God forbid, it is highly possible to become infected by COVID-19 in dental environment; thus, we were really scared and hesitant to take our child to a dental clinic." (Participant No. 17)

- A large number of the parents also expressed they had feared that they themselves might contract COVID-19 in the dental environment. For instance:

"In the current situation of COVID-19, I am really scared. I am not sure as well whether they adhere to the hygienic protocols or not in this clinic." (Participant No. 21)

"This place appears to be clean, but I am really stressed out. Since I got here, I was begging the nurses to disinfect everything and follow the disinfection protocols." (Participant No. 18)

- Some parents mentioned their child's fear of contracting COVID-19 as a barrier to the accessibility of emergency pediatric dental care services.

"My child had toothache but was so scared of COVID-19, in such a way that we could not convince him to have a dental visit; mainly because we all got COVID-19 once and my child got scared of COVID-19 since that time. Eventually, a dental abscess developed and his face swelled. So I had no choice other than taking him to a dental clinic." (Participant No. 18)

"The child's fear of COVID-19 is another problem. We use alcohol for disinfection so much, and my child always has an alcohol spray with her everywhere she goes." (Participant No. 3)

"The child's psychological status is another subject. Since my child heard about the COVID-19 pandemic, he kept asking me that when the virus is everywhere and we have to go to a dental clinic for my toothache, is the place disinfected enough? Are you sure that I will not get sick there?" (Participant No. 1)

- Fear of contracting COVID-19 while using public transport was another barrier mentioned by the parents. For example:

"When we were going back home from the dental clinic, I noticed that the taxi driver and some people did not have on a mask. It further increased our stress level." (Participant No. 23)

"It is important to take precautionary measures on the way to the clinic. For example, we cannot use public transport, and must go by our own car." (Participant No. 1)

Fear of transmitting COVID-19 to others:
Another barrier mentioned by some participants was fear of transmitting COVID-19 to others. For example:
"Each person has a high level of stress and anxiety when going for a dental visit, especially people whose family members are old and/or have predisposing medical conditions. Well, transmission of the disease to those family members is possible." (Participant No. 25)
"Although it has been said that children show a mild form of the disease if get infected, or may only become a carrier, but children are very dear and in close contact with their grandma, grandpa, aunts, and uncles; one of them, God forbid, may have a predisposing medical condition, and if the disease is transmitted from your child to them because you took your child to a dental clinic, you cannot do anything about it." (Participant No. 22)

Financial constraints:
"Financial constraints" was divided into two subcategories: "Increased costs" and "Decreased income".
Increased costs:
Some of the participants' quotes related to increased costs are as follows:
"I had come here from … Street, and the taxi fare had been something around 7500 Toomans; but now it is 15000 Toomans. Well, I mentioned the taxi fare to give an example, but there are many other things whose prices have doubled." (Participant No. 4)
"Financial problems are really common now. The costs of dental treatments are also really high." (Participant No. 3)
Decreased income:
Some participants mentioned a reduction in their income during the COVID-19 pandemic as a barrier to the accessibility of dental care services.
"The economy is slowing down, and incomes are low. Our income level has decreased; thus, we less frequency seek dental care, or delay it, which leads to a series of problems." (Participant No. 1)
"Now, everyone has financial problems. It is the time of COVID-19, unemployment, and heavy costs." (Participant No. 6)

Dentists' less occupational activity:
As another barrier, some of the parents pointed to dentists' less occupational activity during the pandemic. For example:
"Dental clinicians have limited their clinical activity. Health care workers have also limited their work, and thus, they give us late appointments." (Participant No. 1)
"Dental clinics close to our house have decreased their working hours, and are always fully booked." (Participant No. 18)
"Dentists have highly decreased their working hours. A much lower number of patients are scheduled compared with the status before the pandemic, probably because they want to have more time for the disinfection of instruments, or they have great stress." (Participant No. 14)

DISCUSSION

This phenomenological qualitative study investigated barriers to the accessibility of emergency pediatric dental care services during the COVID-19 pandemic from parents' viewpoint in Mashhad, Iran. Finally, three main categories of barriers were recognized: "Fear of COVID-19", "Financial constraints", and "Less occupational activity of dentists". In the interviews, different forms of fear of COVID-19 were most frequently mentioned by the participating parents. Since the present study was qualitative and prioritizing the barriers was not among its objectives, the frequency of repetition of related codes alone cannot indicate the level of significance of the respective barriers.
"Fear of COVID-19" had two subcategories: "Fear of contracting COVID-19" and "Fear of transmitting COVID-19 to others". Such a fear had been experienced by the parents and children in different forms. In fact, after the announcement of the COVID-19 pandemic by WHO, fear and anxiety spread rapidly among the general population worldwide. The unknown nature of the disease and lack of definite treatment and medications for it further aggravated the fear and added to the anxiety of people worldwide [8]. Children were also no exception. They are sensitive to change and may notice changes that are hard for them to comprehend [9]. Since the media and social conversations are highly affected by the COVID-19 pandemic, children are bombarded with piles of new information and experience

fear and anxiety which may be even comparable to those experienced by adults, such as fear of death, fear of losing their loved ones, or fear of dental and medical treatments [10].

"Financial constraints" also had two subcategories: "Increased costs" and "Decreased income". It ranked second in terms of the frequency of repetition of related codes in the interviews. According to the reports by the International Labor Organization, while health care workers were providing services for the public twenty-four seven, others had to work from home, lost their jobs, or were at risk of unemployment. The rate of unemployment has highly increased since the onset of the COVID-19 pandemic. The above-mentioned evidence highlights the significant sudden impact of COVID-19 on different occupations. In other words, it was an occupational shock for many people worldwide. [11] "Less occupational activity of dentists" was another main category extracted from the interviews. Undoubtedly, the COVID-19 pandemic has significantly changed the process of provision of dental care services for patients. Many dental clinics and offices were closed, and many dentists were no longer willing to work during the pandemic. Many others decreased their working hours. Furthermore, dentists had to significantly decrease the number of daily patient appointments to adhere to infection control guidelines and social distancing protocols. All these factors made access to dental care service providers more difficult during the COVID-19 pandemic.

In the present study, most participating parents feared for themselves or for their children to become infected in a dental environment. Fear of COVID-19 has been the main finding of many other studies as well. For example, Binigha and Balasubramaniam [12] showed that approximately 74% of mothers were frightened of contracting the disease through contaminated surfaces in dental clinics; 85% of mothers feared that the disease might be transmitted to them from an infected patient present in the same dental clinic, and 31% worried about waiting in waiting rooms. Farsi and Farsi [13] also reported that 26% of mothers in their study highly feared for themselves or for their children to become infected in a dental environment; 64% slightly feared, and 10% did not fear at all. About one-third of respondents in their study believed that the risk of becoming infected in dental clinics is higher than public places such as parks or shopping centers. Moffat et al. [14] revealed that patients' fear of visiting a dentist during the COVID-19 pandemic was mainly related to the risk of disease transmission from other patients, and that most patients believed the risk of disease transmission from other patients was higher than that from dentists. In a study by Campagnaro et al., [15] 51% of participating parents reported dental trauma in their children during the COVID-19 pandemic. Nonetheless, 86% of the parents did not take their child to a dentist. In that study, a direct correlation was found between not seeking dental care and the level of participants' fear. Majeed et al. [16] also revealed that 63% of participants were afraid of dental visits during the COVID-19 pandemic because they feared contracting COVID-19.

In the present study, "financial constraints" was recognized as a main category of barriers to the accessibility of emergency pediatric dental care services during the COVID-19 pandemic. As a developing country, Iran has always been dealing with economic issues. Vanka et al. [17] Investigated barriers to the accessibility of dental care services during the COVID-19 pandemic, and found that fear of COVID-19 was the first barrier. The second barrier was the possible presence of asymptomatic carriers in dental clinics. In their study, the increased costs of dental care services were among other barriers reported by the participants. Burgette et al. [18] also found a significant correlation between not seeking pediatric dental care and decreased family income or unemployment during the COVID-19 pandemic. Approximately 40% of the participants in their study had lost their jobs or experienced a decrease in their income due to the COVID-19 pandemic.

According to the interviews, "Less occupational activity of dentists" was recognized as another main category of the barriers. Faccini et al. [19] also reported that about 65% of dentists only provided emergency dental care services, and about 9% closed their offices during the COVID-19 lockdowns. This finding further justifies the decreased access to dental care providers during the COVID-19 pandemic.

CONCLUSION

From the viewpoint of parents seeking emergency dental care for their children in Mashhad, Iran, there were different barriers to the accessibility of emergency pediatric dental care services during the COVID-19 pandemic. The barriers were not restricted to the fear of COVID-19, and were partly outside dentists' and parents' control.

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CONFLICT OF INTEREST STATEMENT

None declared.

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