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ORIGINAL ARTICLE

Medicine Science International Medical Journal

Medicine Science 2020;9(3):668-73

Investigation of dentist and clinical environment preferences for children patients and parents

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Received 14 April 2020; Accepted 12 May 2020
Available online 17.08.2020 with doi: 10.5455/medscience.2020.04.054

Abstract

Our study aims to determine the dentist's image and clinical environment features that can overcome the dental anxiety of the child and parent. The study was carried out on 400 children with their parents (n=400) who applied to Erciyes University pediatric dentistry department. The survey method involved questioning the experience of the dentist, the desired dentist, and the clinical environment. According to the results of the survey, it was determined that the children and the parents had positive feelings about this experience (65.5%-68.8%) since the majority of children and their parents had already gone to the dentist (77.5%-93.5%). It was observed that both parents and children want the dentist to wear a mask, but the use of identity cards and glasses is not preferred ($p<0.05$). It was determined that children prefer blue gloves and parents prefer white gloves. A preference for plain masks was found to be significantly high for both groups. ($p=0.01$). It was observed that the children and their parents preferred a white coat and in the use of colored scrubs, blue was preferred in both groups. We concluded that the image of the clinic should be more enjoyable to increase the compliance of the children and their parents with dental treatment. It was seen in the study that a physically accepted dentist and hospital environment was preferred for both groups.

Keywords: Dental anxiety, dental clinic, dental fear, dentistry, clinical environment

Introduction

Dental anxiety is one of the most common problems in dentistry. This affects mostly children and adolescents [1, 2]. Dental anxiety is a multifactorial problem caused by three main factors. The discomfort caused by the dental clinic environment, experiences learned from parents and personal-psychological factors are the main factors [3, 4]. Studies and improvements regarding these variables can be effective in overcoming this fear. When the child is satisfied with the dentist and the clinical environment, the likelihood of compliance with the procedures, and an effective and successful treatment increases. Therefore, the way the dentist expresses himself becomes very important [4].

Researchers report that external appearance and environment features have effects on the first visit and interpersonal communication. Children and their parents develop anticipation based on outlook before proceeding with oral dialogue with the dentist [5-7].

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During the dental visit, it was stated that a child-friendly approach is beneficial for children to accept dental treatment and to cooperate. In the treatments that establish a more positive relationship with the child, the child's anxiety towards treatment is less developed. At the same time, the fact that the clinic where the treatment will be performed is interesting for the children may help them to show a more harmonious attitude towards treatment [8].

It has been reported by psychologists and sociologists that the effect of appearance on interpersonal relationships is important [9]. The pedodontist should watch overto the choice of clothing type, equipment used, and clinical environment features to increase the fit of the child.

In this study, to increase the compliance of the child with dental treatment, it is aimed to determine the image of the dentist and the clinical environment, and thus provide a healthy dentist-patient-parent relationship.

Materials and Methods

In the study, the preferences of the dentist and clinical environment of the pediatric patients and their parents are investigated. According to the power analysis, the n value was calculated as

390 in the confidence interval α=0.05 and β=0.95. d=0.56 for groups. This study was approvedby the Erciyes University Clinical Research Ethics Committee (Nu:2019/528).

This research was conducted on 400 children and 400 of their parents who applied to Erciyes University Faculty of Dentistry Department of Pedodontics in 2019 (n=800). 192 boys (48%) and 208 girls (52%), all children aged between 6-11 years of age, and their parents were included in the study.

The children and their parents were informed, and participation approvals were obtained.

A Dental Preference Survey ofeleven questions was given to pediatric patients and their parents. In the questionnaire, questions were asked about the presence of the child patient and the parent, if they had any experiences, how they felt during the treatment and whether there was a dentist/doctor in their family. Also, the preferences of the color of the scrubsthat the dentist wore were examined. Via these questions, it was hoped to learn the ideal profile in pedodontics.

Finally, the ideal clinical environment such as glove color (blue-white), mask type (color-flat), dental office type and equipment to be used during treatment (mask-glasses- identity cards) were investigated with the survey questions.

While making the survey, inputting child and the parents in separate settings, an attempt was made to prevent the children from the potential effects of the thoughts and prejudices of parents.

Results

The study was carried out on 400 children and their parents, of which 208 girls (52%) and 192 boys (48%) aged 6-11. 310 (77.5%) of the children participants stated that they have already had dentistry experience; on the other side, 90 (22.5%) of them stated that they had never been to a dentist. While 374 (93.5%) of the parents stated that they went to the dentist in their lifetime, 26 (6.5%) said that they did not go to the dentist before. It was determined that the parents and the children going to the dentist overlapped (n=314). However, both of them were found to have positive feelings regarding this experience (65.5%-68.8%) (Table 1).

It was seen in the survey that 53.4% of the children visited the dentist 1-4 times, and 62.1% of the parents visited the dentist 5-10 times.

While 83.3% of pediatric patients and 81% of parents said that there were no doctors/dentists in their family, 67 (16.7%) of pediatric patients and 76 (19%) of parents stated that there were doctors/dentists in the family.

While the gender preference of the dentist in pediatric patients leaned towards the female dentist (52%), it was seen that male dentists were preferred by the parents (50.5%). There was a statistically significant difference between pediatric patients in terms of dentist gender preference. The pediatric patients preferred to be treated by the same gender dentist ($p<0.05$) (Table 2). There was however no statistically significant difference between parents in terms of dentist gender preference ($p>0.05$). Also, pediatric patients (n=218) and their parents (n=256) stated that the external appearance of the dentist is important.

It was observed that both parents and children wanted the doctor to use masks, but the use of identity cards and glasses was not preferred, and the results were found to be significant ($p <0.05$).

Plain mask preference (Pediatric patients 59.5%-Parents 65.8%) was found to be significantly higher for both pediatric patients and parents (p=0.00). It was observed that children preferred blue gloves (59.5%) and parents preferred white gloves (68.0%). While there was no statistically significant difference in glove color preference for children (p=0.14), there was a significant difference in terms of parents (p=0.00). The unit color preference was however numerically high in both pediatric patients and parents. It was understood that there was no difference between them in terms of statistics (p=0.726).

It was determined that the children (n=238) and their parents (n=278) preferred white coats (Table 1). It was observed that blue scrubs (30.8%-36.5%) were preferred in both boys and girls. Table 2 shows the dentist and clinical environment preferences for children according to gender.

Discussion

Dental anxiety, which is more specific than general anxiety, and is the patient's response to the stress that the individual is exposed to during dental treatment, is unconscious anxiety developed against an unknown danger [3, 6, 10].

It has been thought that the etiology of dental anxiety seen in children is related to many factors such as age, gender, socioeconomic status, the frequency of the child's going to the dentist, and the bad experiences which they have. The environment of the family and the child's environment transfers the bad dental experiences to the child, such as the color of the scrubsand the gloves, that affect the dentist's appearance, mask, glasses, and the badge [11-14]. Also, the environmental properties are very effective in dental anxiety [6, 7].

Dental anxiety is a very common situation in pediatric patients. When we analyzed the relationship between this situation and age, a negative correlation was determined. Folayan et al [15] and Cuthbert and Malamed [16] stated that the fear of dentists decreased over 6-7 years and it could be easier to cope with advancing age. In our study, it was seen that among the children over 7 years old(73.7%), those with a dentist experience evaluated this experience positively. Findings obtained from our study support previous studies [7, 12, 14, 16].

The first examination is an important factor in pediatric patients and is seen as the determinant of dental anxiety during ongoing visits. In the study of Tong et al.[17], it was seen that anxiety levels are high among children who have gone to the dentist before and for multiple dental visits. In the study of Patır Münevveroğlu, it was observed that the groups that came to the dentist for the first time had higher anxiety levels [18]. In our study, it was seen that children have a great dentist experience and this experience causes positive behaviors in subsequent appointments. However,

Table 1. Shows dentist and clinical environment preferences for children and parents

		Patients		Parent	
		Frequency (n)	Percent (%)	Frequency (n)	Percent (%)
Visited the dentist	**Yes**	310	77.5	374	93.5
	No	90	22.5	26	6.5
Physician in the family	**Yes**	67	16.7	76	19.0
	No	333	83.3	324	81.0
Feelings during treatment	**Like it**	262	65.5	275	68.8
	Afraid of it	138	34.5	125	31.3
Dentist gender preference	**Female**	208	52.0	198	49.5
	Male	192	48.0	202	50.5
The appearance of the dentist	**Yes**	218	54.5	256	64.0
	No	182	45.5	143	35.8
Wear a mask	**Yes**	294	73.5	344	86.0
	No	106	26.5	56	14.0
Use of identity cards	**Yes**	120	30.0	142	35.5
	No	280	70.0	258	64.5
Mask Type	**Plain mask**	238	59.5	263	65.8
	Mask with picture	162	40.5	137	34.3
Color of the gloves	**Blue**	225	56.3	272	68.0
	White	175	43.8	128	32.0
Dental clinic	**Decorated**	204	51.0	196	49.0
	Undecorated	196	49.0	204	51.0
Dentist wearing	**White coat**	238	59.5	278	69.5
	Colored coat	162	40.5	122	30.5
Color of the scrubs	**Red**	57	14.2	47	11.8
	Green	47	11.8	55	13.8
	Blue	123	30.8	146	36.5
	Yellow	75	18.8	63	15.8
	Purple	43	10.8	36	9.0
	Pink	55	13.8	53	13.3
Protective glasses	**Yes**	168	42.0	158	39.5
	No	232	58.0	242	60.5

Table 2. Shows dentist and clinical environment preferences for children according to gender

		Boy (n=192)	Girl (n=208)	p
Visitedthe dentist	**Yes**	148	162	0.905
	No	44	46	
Physician in the family	**Yes**	34	158	0.688
	No	33	175	
Feelings during treatment	**Like it**	130	132	0.400
	Afraid of it	62	76	
Dentist gender preference	**Female**	130	132	0.000*
	Male	62	76	
The appearance of the dentist	**Yes**	100	118	0.352
	No	92	90	
Wear a mask	**Yes**	141	153	1
	No	51	55	
Use of protective glasses	**Yes**	92	76	0.26*
	No	100	132	
Use of identity cards	**Yes**	52	68	0.231
	No	140	140	
Mask type	**Plain mask**	120	118	0.263
	Mask with picture	72	90	
Color of the gloves	**Blue**	111	114	0.614
	White	81	94	
Dental clinic	**Decorated**	93	111	0.368
	Normal	99	97	

Note:*: $p < 0.05$

it was observed that positive thoughts were high (75.5%) in the group that did not have previous experience in dentistry and no significant result was found in this regard. Although they do not have a dentist experience, we think that the children are not afraid of the dentist due to the positive experiences of the family and the environment, and due to increased awareness of dental procedures.

Non-verbal communication, starting with the dentist's appearance, is of great importance during dental treatment. Children develop an idea based on the image of the dentist and take note of the speech and movements of the dentist during treatment [19]. Dunn et al.[20] reported that external appearance had an important role in choosing a dentist and maintaining the relationship with the patient. In our study, it was seen that the appearance of the dentist is an important factor affecting both child and parent compliance.

The gender of the dentist is another factor that plays a role in the child's compliance with dental treatment [17-20]. In the study of Tong et al.[17], it was seen that children preferred to be treated by the same gender dentist. Aktören and Akıncı [21] stated that most of the children and their parents would not notice the gender of the dentist themselves. In our study, it is understood that dentist gender preference is important for children but not important for both children and their parents. We had thought that performing dental treatments with a same-gender dentist for children could help them feel more comfortable in the clinic.

Some studies considered the physical appearance as an important factor in individuals' choice of dentist and stated that the dentist played a big role in the development of the patient relationship [17,20,22]. Patır Münevveroğlu et al [18]. Showed that 76% of the children preferred colored scrubs. Kamavaram Ellore et al.[9] found that the majority of children preferred the dentist to wear a white coat. This finding supports the study of McCarthy et al.[23], which showing that the children are not afraid of the dentist wearing a white coat and they find it more portrays more competence, contrary to the common belief. In our study, the vast majority of children and parents preferred a white coat. This indicates that the child and their parents see the white coat as a symbol of health and expect such an image from the dentist.

Dentistry is one of the professions where the risk of infection is high between the patient and the dentist. For this reason, the use of equipment such as gloves, masks and safety glasses has great importance[4]. Furthermore, it is also important to examine how patients perceive protective equipment and evaluate the impact of their use [24,25]. Mistry et al. [19] stated that children do not prefer using protective glasses. In our study showing the same results, it was seen that both parents and children wanted the doctor to wear a mask, however, the use of glasses was not preferred. This result shows that children may be afraid of protective accessories such as glasses and may not be aware that they are used for protective purposes. It is understood that the use of glasses is seen by the child as an obstacle to visual communication.

In McKenna's study [25], it was determined that children prefer the use of identity cards in dentistry. Similar results were obtained in other related studies in the literature [4, 17, 25]. In our study, it was seen that children and parents do not prefer identity card usage. In our society, a conclusion can be drawn that patients want to know their doctors orally and think that the name card is not necessary.

In their study, Panda et al.[4] found that children prefer plain white masks instead of colored ones. This study supports the results of our study. One of the reasons may be the children are more familiar with the plain mask. It is thought that a classic doctor image was created for children or learned from their parents. Also, associating white color with an understanding of cleanliness may be effective in concluding on this result. In our study, it was found that the choice of plain masks was significantly high for both groups. In the same study, when the children were asked to choose, the majority of the children preferred white gloves. In our study, a preference for white gloves by the parents was found to be significant. It was concluded that the children preferred blue color gloves more, although it was not statistically significant, and they welcome the small changes to the general dentist image positively.

Regulations in the examination environment can change the perspective of pediatric patients towards treatment. It is important for the hospital environment, which is perceived as scary and frightening for children, to be arranged so that the child can feel psychologically and physiologically comfortable, to prevent the anxiety of the child [26]. In some studies, it was determined that the patients preferred a clinic mostly designed with toys and posters [18,24]. In the results of our study, it was seen that children and their parents prefer a colorful, interesting dentist'soffice. Choosing the colors used in the design of the child polyclinics in a way that the children like and the use of animal and cartoon characters on the walls can function as a distraction and make the child accept the treatment more easily.

Conclusion

The results of our study provide information about the perception of the dentist by children and their parents. Our study found that children and their parents had certain views on the image of dentists' dental clinic. It was observed that patients and parents had a classic dentist appearance in their minds and this image was more preferred. However, it has been observed that the small interesting equipment used has a positive effect. It has been determined that the arrangements made in the clinical environment increase the harmony of parents and children. We strongly believe that small changes made by the dentists and arrangements that will attract the attention of the child in the clinical setting will be effective in reducing the level of anxiety in the patient groups.

Conflict of interests
The authors have no conflicts of interest to declare.

Financial Disclosure
All authors declare no financial support.

Ethical approval
Ethical approval of our study was obtained from Erciyes University Clinical Research Ethics Committee. (Nu:2019/528).

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