

Dental fear in patients pursuing orthodontic treatment

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Abstract

Introduction: Dental fear is a common occurrence characterised by an essential and inevitable emotion that appears as a response to dental procedures which may prohibit patients from getting orthodontic treatment. The main goal of the survey was to analyse different causes and the most fearful aspect of the treatment in patients undergoing orthodontic treatment.

Material and methods: Descriptive cross-sectional study was done that included hospitals in Islamabad. Duration of study was from October to December, 2016. Both males and females reporting for orthodontic treatment that consented to participate in the study were included. All patients were asked to fill the questionnaire regarding their fears about the said treatment using a structured questionnaire.

Results: A total of 200 questionnaires were distributed among the patients undergoing orthodontic treatment for the study. Out of these questionnaires 193 were finally selected to be included in the study and the rest were excluded due to incomplete/improper answering. Out of 193 patients 85(44%) were males and 108(56%) were females. Dental fear was higher in the young adults and more in females as compared to males. The most common cause observed among both the genders was extraction (54%), whereas out of all the fears, the common cause of fear among males was the fear of extraction (42.3%) and fear of injection (64.8%) among females.

Conclusions: Orthodontists should recognise the existence of dental fear in patients coming for treatment and create an awareness of the problem. To reduce these fears, they need to develop skills to communicate effectively with the patients before undertaking any treatment.

Keywords: Fear; anxiety; phobia

Introduction

Dental fear is defined as an abnormal fear or dread of visiting the dentist for preventive care or therapy and unwarranted anxiety over dental procedures.¹ It varies with the type of dental procedure and attitude of the dentists. As dental care services generally need multiple visits and interventional procedures these are usually the main cause of dental fears and subsequently delay in the dental treatment, resulting in poor oral health.² Dental fear is defined as the fear of dentistry and of receiving dental care. It can also be described as a reaction to a perceived danger

that is known to the individual and is often characterized by feelings of tension, worried thoughts, apprehension and physical changes like increased blood pressure, nausea and palpitation etc. Fear is a biological response and a reaction to a known danger or threat.^{5,6} The terms anxiety, phobia and fear are often used interchangeably in the literature and differentiating one term from other is often complicated.

Todd and Walker showed that nearly 43% of people avoid going to a dentist unless they experience trouble with their teeth.³ Curson and Coplans⁴ have also reported that anxiety contributes to delay in visiting a dentist. The physiological impact of dental fear not only acts as a barrier to dental treatment but also effect quality of treatment provided to patients. Poor oral health and delay in treatment usually leads to dental diseases and further aggravation of pre-existing disease.

In orthodontic treatment, age is of crucial importance. Most people report that their

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dental fear began after a traumatic, difficult and/or painful dental experience.⁷ However, painful or traumatic dental experiences alone do not explain why people develop dental fear and the perceived manner of the dentist is an important variable. Dental fear may also develop as people hear about others traumatic experiences or negative views of dentists.⁸ Dental fear may vary according to age, gender and education. The delay in the treatment can lead to chewing and digestion difficulties, speech impairments and abnormal wear of tooth surfaces in addition to psychosocial problems. The common hindrances in orthodontic treatment which are cost, dietary restrictions, and maintenance of oral hygiene, pain and extractions. These can be a reason for discontinuation or delaying of orthodontic visit which not only prolongs treatment duration but also may result in poor oral hygiene, compromised periodontal status, low self-esteem and general wellbeing.

It is therefore important for the orthodontists to recognize existence of dental fear in patients coming for treatment so that they can better explain all these aspects in detail before starting the long term treatment. They must alleviate the fears of patients and answer all their questions. The purpose of this study was to assess existing dental fears among orthodontic patients and create an awareness of this problem so that anxious and fearful orthodontic patients can be facilitated accordingly.

Material and Methods

This cross sectional study was conducted in various hospitals of Islamabad. 200 questionnaires were distributed amongst the selected hospitals, from which 7 were not included due to incomplete/improper answering. Conclusively 193 questionnaires were collected at the end of the study. Male or female patients in the age group of 10-30 years who recently visited the Orthodontist.

Patients having any psychiatric, systemic diseases and cranio-facial abnormalities were excluded from the study.

The patients were randomly selected visiting the hospital for their orthodontic appointment and were informed about the objectives of the study. Patients of both genders who fulfilled the inclusion criteria, disregarding their malocclusion were included in the study. The age of included subjects was between 10-30 years. Patients who visited the orthodontist were asked to fill the questionnaires. Information regarding age, gender and causes of fears was elicited from each of the participants. They were also asked regarding confidence of asking question, dentist's way of treatment, instructions regarding effect and consequences of treatment.

Data analysis was done by using SPSS version 21. Man-Whitney test was performed to see the significance of different variables with respect to gender and variables were presented in the form of bar charts.

Results

Study was performed among both genders and most of the patients were between 13-24 years of age. Out of 193 patients 85 (44%) were males and 108 (56%) were females. Dental fear was higher among young adults and more in females as compared to males. The most common cause of fear observed amongst both the genders was extraction (54%), whereas out of all the fears the common cause of fear among males was the fear of extraction (42.3%) and fear of injection (64.8%) among females. The patients were divided into seven groups according to age (Table I) in which dental fears were observed mainly among patients of ages 16 - 18 having the most common fear of extractions.

In the current study, out of 85 males only 2.35% of male patients (n=2) and out of 108 females only 6.48% of female patients (n=7) developed dental fear because of some

negative experience in the past. 11% of male patients (n=9) and 15% of female patients (n=17) feared that their dentist will make them feel guilty or embarrassed about their teeth. 35% of male patients (n=30) and 50% of female patients (n=54) were observed having fear of pain when braces were to be placed on their teeth. 15% of male patients (n=13) and 32% of female patients (n=34) developed fear from negative stories they heard from others. 42% of male patients (n=36) and 63% of female patients (n=66) were observed having fear of extractions, while 36% male patients (n=31) developed fear for injections compared to 65% of females (n=70). 39% of male

patients (n=33) and 45.3% of female patients (n=49) had fear related to orthodontic drills. 34% of male patients (n=21) and 62% of female patients (n=67) had concerns about food entrapment when the braces were placed. 25% male patients (n=22) showed concerns for compromised oral hygiene when compared to 43% of female patients. 35% of male patients (n=30) and 60% of female patients (n=64) had fear of unpleasing smile while having braces. 37.6% of male patients (n=32) and 31.4% of female patients (n=34) showed fear of their profile getting disturbed with orthodontic treatment.

**Table I: Causes of fears in orthodontic patients
(Age wise distribution)**

Causes of fear in orthodontic patients	10 - 12 (8)	13 - 15 (32)	16 - 18 (55)	19 - 21 (42)	22 - 24 (40)	25 - 27 (14)	28 - 30 (2)
Fear because of negative experience	1	0	0	5	1	0	0
Fear of feeling guilty or embarrassed	0	3	10	4	4	5	0
Fear of pain when braces are placed	1	11	17	25	21	9	0
Fear because of negative stories	0	11	8	11	10	6	0
Fear of extractions	1	14	48	32	27	9	0
Fear of injections	4	19	19	24	23	10	0
Fear of using drill	2	7	20	26	38	7	0
Fear of food entrapment	1	21	16	36	21	10	0
Fear of compromised Oral hygiene	1	11	16	17	36	5	0
Fear of having unpleasing smile	2	16	19	26	21	9	0
Fear of disturbed facial profile	3	9	11	21	13	9	0

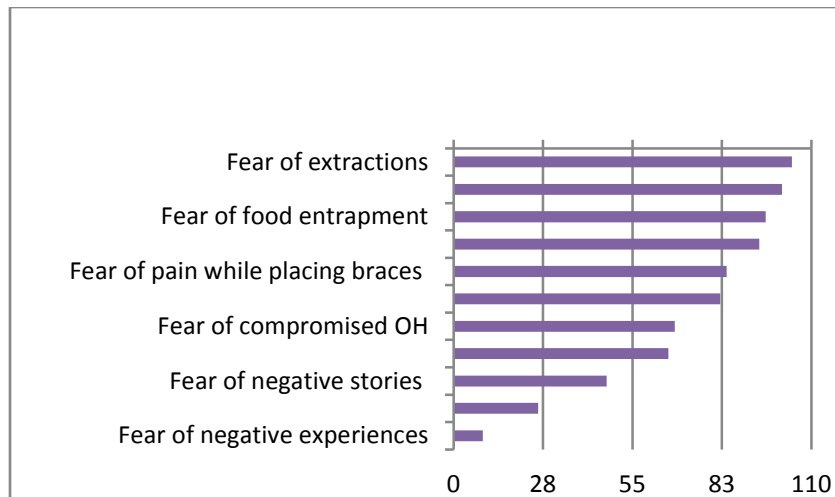


Figure 1. Prevalence of fears in orthodontic patients

Discussion

In the literature, although Kanegane et al.⁹ reported no relation between gender and dental fear, many authors have shown that dental anxiety is more common in women.¹⁰⁻¹³ The result of our study is similar to the most recent reports that females demonstrate higher levels of dental fear as compared to males. This difference may be explained by women being more able to express their feelings of fear. In addition, physiological conditions such as social phobia, panic, depression, stress, and fear are more common in females and dental fear may be associated with such emotions.¹⁰

In the current study we found out that the most common cause of fear amongst both genders was extraction (54%), which could be due to loss of sound tooth and leading to missing spaces which might be aesthetically unpleasing to patients for a specific duration whereas out of all the fears the common cause of fear among males was the fear of extraction 42.3% and fear of injection 64.8% among females. This suggests that despite the technological advances made in modern dentistry, fear associated with dental treatment was widespread. Prevalence was higher than that reported in studies done by Do Nascimento et al. (23%),¹⁴ Malvania and Ajithkrishnan (46%).¹⁵ However, it was less than that concluded by study conducted by

Madfa et al. (63%).¹⁶ Furthermore, overall level of fear of dental work among our population was similar to the Saudian population.¹⁷

A study in USA carried out regarding the same elements in general dentistry procedures estimated that, 75% of US adults experienced some degree of dental fear ranging from mild to severe degree.¹⁸ Phobia was observed more in the age group of 16 - 18 years similar to Corah NL, who showed that most dental phobias start before the age of 20 years with higher percentage of phobias between ages of 15-19 years.¹⁸

According to our results, 42% of male patients and 63% of female patients were observed having fear of extractions. Fear of extraction and fear of injection was common in the participants of the current study. Fears of dental injections remain a clinical problem often requiring cognitive behavioural psychology counselling and sedation in order to carry out needed dental treatment. The study, based on a national survey in Australia, compared patient concerns about numbness caused by local anaesthesia and fears of the injection itself. It also examined associations between dental fearfulness and avoidance associated with patient self-reported negative experiences and treatment need. Needle fear in particular, is a major issue given that the delivery of local

anaesthesia via injection is the central plank of pain relief techniques in dentistry and dentists as well as patients often avoid difficult injections as a consequence, resulting in poor pain control. A less well described anxiety of receiving dental treatment is fear of numbness associated with the dental injection according to this study. Certainly, many dentists believe that their patients avoid local anaesthesia because of a wish to avoid the disturbing effects of numbness.¹⁹

In the present study, people who experienced previous traumatic dental episodes showed low levels of dental fear, which was not the same as observed in the findings conducted by Do Nascimento et al. who comparatively showed higher levels of dental fear in such patients.⁹

In the present study, 11% of male and 15% of female patients feared that their dentist would make them feel guilty or embarrassed prior to their treatment, which might be due to their orthodontist passing comments on their compromised oral hygiene. Patients reacted against the embarrassing comments of dentist for poor status of patient's teeth. This reaction between males and females was the same and similar results were reported by Corah.¹⁸

According to the present results, 15% of male patients and 32% of female patients developed fear from negative stories that they heard from peers. Moore also reported the same and concluded that patients developed dental fear after they heard about someone else's traumatic experience or negative views of dentistry.⁸

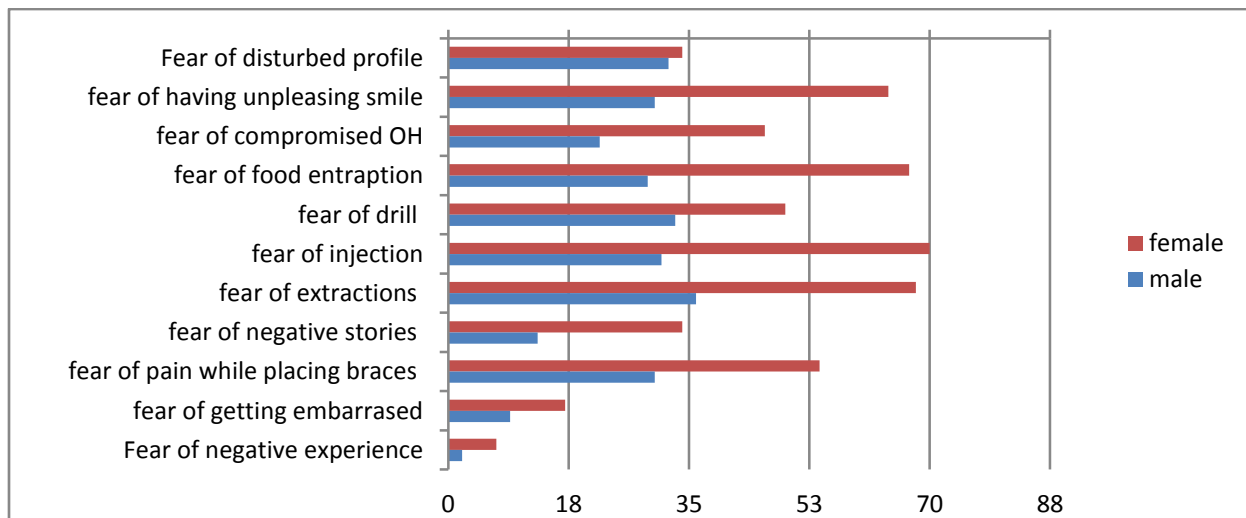


Figure 2. Causes of fear in association with gender

Conclusions

According to our findings, fear associated with dental treatment is widespread in the study population. Dental fear levels of females were higher than males and more in young adults. Determining the prevalence of dental fear in orthodontics and factors contributing to it will create an awareness of the problem, and help clinicians identify patients who are dentally anxious and facilitate appropriate treatment and

management during orthodontic treatment. The ultimate goal of orthodontist should be, to make the visits comfortable, relaxed and improve doctor-patient relationship. This will not only help the orthodontist to share basic information regarding treatment but will also minimise dental fear during painful procedures.

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