

2 **Profiling origins and manifestations of dental fear and**  
3 **anxiety in children and adolescents: A content**  
4 **analysis of YouTube videos**

5 **ABSTRACT**

6 Fear and anxieties towards going to dentists are major problems for a sizeable proportion of children  
7 and adolescents. Dental fears were shown to be associated with dental health problems. Patient often  
8 associate the dental office as an unfriendly, offensive and anxiety- provoking environment, distinguished  
9 by loud noises, distinctive odors, bright lights, invasive contact in mouth and probability of pain. The aim  
10 of the present study is to know the origin and impact of Dental Fear and Anxiety in children and  
11 adolescents using YouTube as a platform. A content analysis was conducted to know the origin,  
12 manifestations and impact of dental fear and anxiety among children and adolescents by screening  
13 videos form YouTube using three keywords: 'dental fear', 'dental anxiety' and 'dental phobia'. After  
14 inclusion and exclusion criteria total of 16 videos were transcribed. The themes derived after  
15 transcription for origin were 7 namely: dental personal, dental instruments, injection, dental clinic set up,  
16 procedure, pain and influence. For maintenance themes were: crying, nervous behavior, whining, bad  
17 behavior, distraction and refusal and impacts were: refusal to open mouth, refusal and relief. Social  
18 media and internet are platforms to understand and tackle dental fear and anxiety from a lay person's  
19 point of view.  
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21

22 *Keywords- dental fear, dental anxiety, dental phobia, children and adolescents.*  
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**1. INTRODUCTION:**

Fear and anxieties towards going to dentists are major problems for a sizeable proportion of children and adolescents.[1] Mild fear and anxiety are expected experiences, consistent with normal development, but they become a concern and potentially in need of treatment when the fear or anxiety is disproportionate to the actual threat and daily functioning become impaired.[2]

Dental fear is a normal emotional reaction to one or more specific threatening stimuli in the dental situation. Dental anxiety denotes a state of apprehension that something dreadful is going to happen in relation to dental treatment. Dental phobia represents a severe type of dental anxiety and is characterized by marked and persistent anxiety in relation either to clearly discernible situation or objects or dental situation in general. [2]

A study conducted in United States showed that 43% exhibited 'low to moderate' 'general dental fear', whereas 10% showed 'high dental fear'. Patient often associate the dental office as an unfriendly, offensive and anxiety- provoking environment, distinguished by loud noises, distinctive odors, bright lights, invasive contact in mouth and probability of pain.[3]

Dental fears were shown to be associated with dental health problems. Women were more fearful than men, younger persons were more fearful than older ones. Patients of lower socioeconomic status had more dental health problems compared with more privileged persons.[4]

Association is seen between adult's dental fear and aspects of self- related oral health. People with high dental fear more likely to report greater dental treatment needs.[5] Children with their curious behavior also are more sensitive to fear and anxiety according to their ages. Once the fear is inculcated in them it becomes difficult to get rid of them and dental treatment, dentist is one of the many things which induces fear.

There are numerous studies about dental procedures on the social media but scarce studies on Dental Fear and Anxiety (DFA). Hence, the aim of this study was to profile the origin, manifestations and impact of dental fear and anxiety in children and adolescents through YouTube videos.

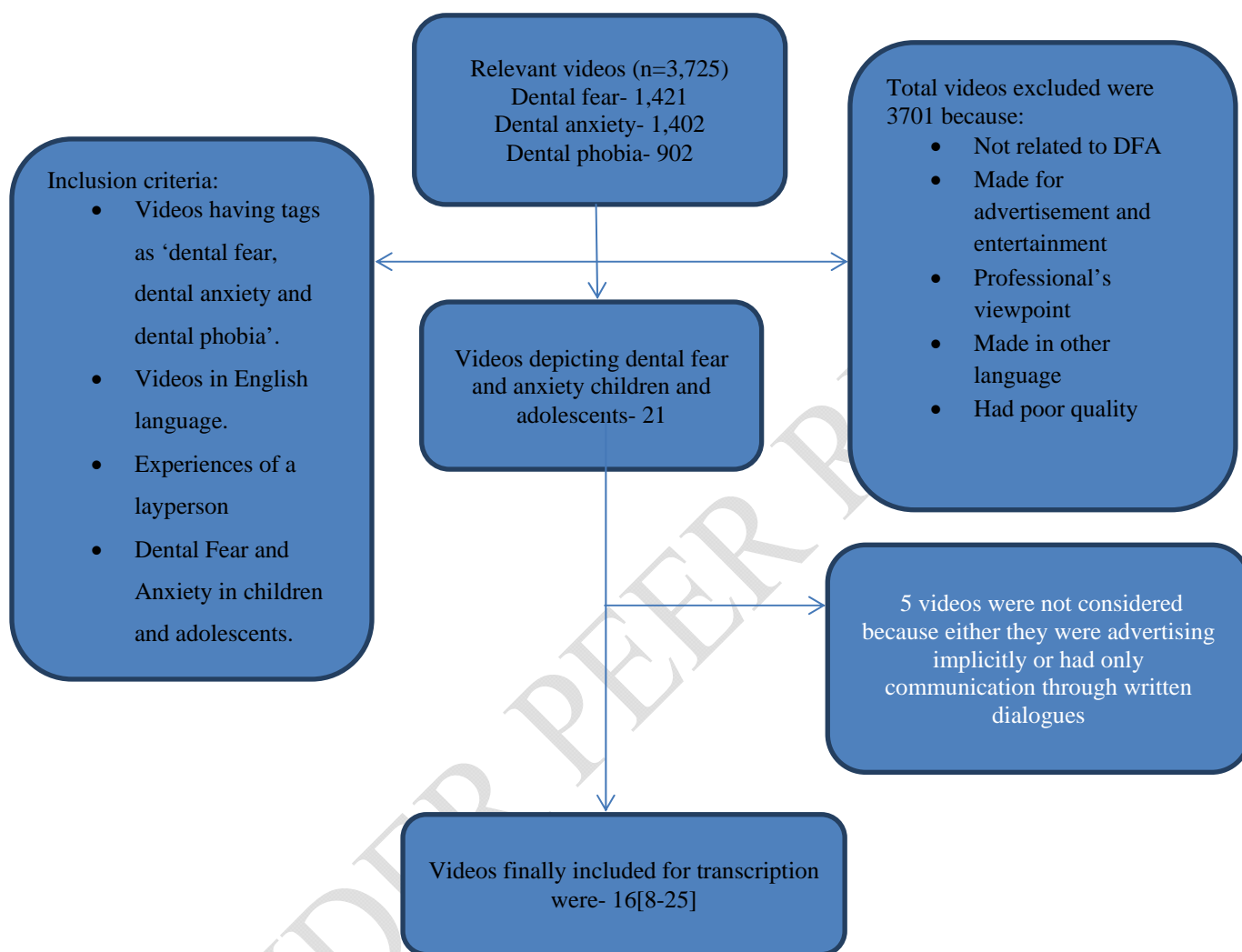
**2. MATERIAL AND METHODS:**

A content analysis was conducted to know and further profile the origins, manifestations and impacts of DFA among children and adolescents by screening videos from YouTube. YouTube was searched using three keywords:- 'dental fear', 'dental anxiety' and 'dental phobia' individually. These keywords were chosen as they were simple and

would have been regularly/ easily tagged in on videos. As YouTube is a dynamic platform the video search was done for time period of one week i.e., 9<sup>th</sup> to 16<sup>th</sup> August 2017.

The videos were included according to the eligibility criteria. Search produced 3725 relevant videos. Out of which 21 of them were showing dental fear and anxiety in children/adolescents. 16 videos were transcribed; the videos not considered were either advertising implicitly or had only communication through written dialogues (Figure 1).

**Fig. 1: selection of videos**



The videos were assessed based upon the age of the person experiencing DFA and not on the informant. Age of children and adolescents was judged mainly based on visual and verbal clues (i.e., appearance, behaviors and levels of speech development) when the age was not explicitly mentioned in the video or in their titles.

Following selections the videos were transcribed verbatim by two authors independently which were further analyzed which was done manually. Transcription included non- verbal expression like body language, facial expressions, body postures etc. videos were then analyzed for different types of origins of fear and anxiety, their manifestations and impact on children's and adolescent's behavior.

Codes were derived by a combination of words given by the informant in the videos and judgment of the coders. Any disagreement between the researchers was resolved by discussion. All the codes were grouped under clusters and the dominant clusters were made themes.

### 3. RESULTS:

The analysis showed various codes were derived for all i.e., origins, manifestations and impact of DFA. The similar codes were grouped as clusters and further upon discussion among the coders these clusters were made themes. The themes obtained for origins, manifestations and impacts of DFA were 7, 6 and 3 respectively.

#### 3.1 The themes obtained for the origin of dental fear and anxiety (Table 1)

- 3.1.1 Dental personal:** Dental personal was one of the origins of dental fear and anxiety that could be seen just by presence of dentist or dental assistant or hygienist or even just the mention of dentist.  
 “Child in the video was happily chatting away with her elder sister but as soon as the dentist enters the child starts shouting No! No! and hides behind her mother....”
- 3.1.2 Dental Instruments:** Instruments are one of those things that make people anxious in general and children more so.  
 “Ashanee gets up and looks at the dentist placing instruments, she calls her mom for help cries and gets up crying”  
 Things as small as floss, toothpaste or prophylaxis paste can cause children to be anxious.  
 “Mathew sits quietly, but when showed how to floss and helped to floss he gets apprehensive... looks at dentist with uncertainty and wants to just go away...”
- 3.1.3 Injection:** injection is one such thing which instills fear in children and adult alike.  
 “Christina says she does not like coming to dentist because shots are given to her t dental clinic and it is painful”
- 3.1.4 Dental clinic set up:** Just the thought of being in hospital scares patients.  
 “Hunter Wein (8 year old) never sits still at dentist's and is so served that his fillings have to be done in hospital setting under general anesthesia”
- 3.1.5 Procedure:** The treatment procedure itself singularly or along with other factors causes dental fear and anxiety  
 “Toby waiting in the reception is all cool.. On entering the clinic is not so sure... upon asking ‘you want to open your mouth and show your teeth’ he shakes his head No!”
- 3.1.6 Pain:** Pain does not arise only from injection but also from the dental procedure. The thought and anticipation of pain causes dental fear and anxiety.  
 “Olivia touches the needle with her finger and exclaims ‘Oow! Look it hurts my finger it will hurt my teeth also’”
- 3.1.7 Influence:** Parental, peer and siblings, their personal experience prior or even in front of the patient does influence their perception and acceptance of dental treatment. Their fears are often rubbed off on the patients.  
 “Two children go to get themselves checked; the elder child is all exited meanwhile the younger child gets the checkup but seeing his brother all still and stiff on the chair prior to himself, he becomes insecure and when he sits on the chair becomes stiff himself”

**Table 1: Depicting clusters and various codes for the Origin of Dental Fear and Anxiety in Children and Adolescents**

Dental personal	Dental instruments	Injection	Dental clinic set up	Procedure	Pain	Influence
Dentist	Seeing instruments	Seeing syringe		Not understanding procedure	Pain from shots	Presence of anxious family member
Dentist approaching	X-ray	Shots		Tell-show-do	Pain from treatment	Presence of siblings
Dentist assistant	Floss			Realisation		

### 3.2 The origin of dental fear and anxiety leads one or more than one manifestation (Table 2)

- 3.2.1 Crying:** It is one of the most commonly seen outcomes of dental fear and anxiety for that matter.  
"Adrian is anxious on seeing the dental instruments and starts crying (genuinely)"
- 3.2.2 Nervous behavior:** Children have good knack of escaping reality by busing themselves in other activities it is outlook of nervousness.  
"A family of three is waiting in the reception area: mother tries to pacify the child saying it is just another dental appointment but the child is scared and fiddles with her hair, jacket and constantly shakes her leg."
- 3.2.3 Whining:** By definition whining means making long, high pitched complaining cry or sound, it is and outburst of emotion mostly associated with a particular situation, in this study dental clinic or dental treatment.  
"Ashnee complies with dental checkup but a whine continuously, cries and gets up constantly. Dental assistant makes her lean back on chair. Whines incoherently, hands raised, but no tears, twists and turns"
- 3.2.4 Bad Behavior:** It is one more way in which a child vents out his or her feeling.  
"When dentist enters the room and moves towards the child she hides behind her mother and throws temper tantrums, hits the dentist and kicks her mother"
- 3.2.5 Distraction:** Works well for children to engage themselves in other activities like playing, talking watching cartoon etc.
- 3.2.6 Refusal:** All the dental fear or anxiety at some point leads to refusal.  
"Ashanee, when her mother says he is just gonna check your teeth, she keeps clamping over mouth mirror and tries repeatedly to get down the chair so she need not get the treatment done."

**Table 2: Depicting clusters and various codes for the Manifestations of Dental Fear and Anxiety in Children and Adolescents**

Crying	Nervous behaviour	Whining	Bad behaviour	Distraction	Refusal
Cries	Twisting and turning on dental chair		Throws temper tantrums	Playing with phone for distraction	Refuse to open mouth
Cries inconsolably	Hands raised		Kicking mother	Watching cartoon	Covering mouth
Outburst of crying	Moves head		Pinching mother		Clamping mouth
Tears	Fiddles with jacket, hair and shakes legs		Bawling		Turns away from the dentist
			Pulling and throwing things		

### 3.3 These manifestations ultimately lead to outcomes which have impact on dental treatments (Table 3)

- 3.3.1 Refusal to open mouth:** All the dental fear or anxiety at some point leads to refusal.  
"Ashanee, when her mother says he is just gonna check your teeth, she keeps clamping over mouth mirror and tries repeatedly to get down the chair so she need not get the treatment done."
- 3.3.2 Refusal to get treatment done:** One of the major impacts of dental fear and dental anxiety is not getting the appropriate treatment and more importantly not getting the treatment before it is too late, which in turn affects the quality of life.  
"Miles does not want to get treatment and on repeated consoling from his dad he still does not comply to get the treatment done. The dad has to give in and takes him away from the dental clinic (without getting the treatment) so they can save everybody's time"

- 3.3.3 Relief:** Irrespective of the fact whether a child gets the treatment or not he/ she is very much relieved to turn his/ her back on the dental clinic or hospital.  
 “The brothers reluctantly gets the treatment done but their faces shows the relief on walking towards their parked car (to go home)”

**Table 3: Depicting clusters and various codes for the Impact of Dental Fear and Anxiety in Children and Adolescents**

Refusal to open mouth	Refusal	Relieved
	To get the treatment done	To go from the clinic
	To come again for the treatment	To go away from the doctor

#### 4. DISCUSSION

It is a general notion that visit to doctor gives pain, further is associated with fear. So any visit to doctor/hospital/ dentist often induces fear and causes anxiety to people in general. Children and adolescents due to their age feel anxious and fearful so in them this fear could be more accentuated.

In the present study it was seen that the dental fear and anxiety was originated by dental personal, instruments, injection, clinic setup, procedure, pain and influence which was in accordance with a study.[1] Dental personal, dental instruments, injection were a common feature which was seen in a previous study.[6] Influence was an origin which was a feature seen in a previous study.[7]

In the present study it was seen that the manifestation of DFA was crying, nervous behavior, whining, bad behavior, distraction, not sit still in dental chair, refusal it was in accordance to a previous study.[1] Refusal was a common manifestation which was seen in a previous study.[6]

According to the present study impacts of DFA were seen as refusal to open mouth, refusal, and relieved which was in accordance to a previous study.[1] For the first two themes but relieved was an impact seen specifically in the present study. Refusal was a common manifestation which was seen in a previous study.[6] Refusal of treatment was an impact seen in a previous study.[6]

#### 5. CONCLUSION

Dental anxiety, fear and phobia have different aetiology, response patterns, time courses, and intensities that justify a clear distinction between these constructs. To understand and help and handle patients with DFA it is very important to understand its origin, to further understand its manifestations and impact. DFA is often seen as a taboo and it leads to inhibition, which leads them to neglect the dental treatment they need.

Social media is a wonderful platform that is used world-wide for exchange of information, in the YouTube videos, you can observe different ways to prevent or treat dental anxiety and fear. Videos are audio visual aid which makes the message to be delivered all the more powerful. So these videos are useful in creating awareness and educating public. The videos taken in the present study were depicting children and adolescents who were waiting to get dental treatment or getting dental treatment.

These videos could also be used to educate patients especially children in this respect so as make them aware and help them cope better so that they can get the required treatment and lead a better life.

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