A Cross-sectional study on prevalence of dental anxiety and fear, oral habits and awareness of oral health among the students of Dakshina Kannada district.

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Key words: Oral health, Dental anxiety and fear, Adverse oral habits.

Abstract:

Objective: Assessing the prevalence of dental anxiety and fear, oral habits and awareness of oral health among the students.

Methodology: 374 students of JNV, DK were screened who were from different parts of the district. A questionnaire – response sheet was used for the survey. Chi-squared test was used for statistical analysis.

Result: Fear of injections, anxiousness to visit a dentist, sounds and suffocation and previous bad experiences were the source of dental anxiety and fear. Adverse habits like nail biting were observed which was significantly prevalent.

Conclusion: As per our observation, there is a need of oral health care awareness. Promotional programs / activities are required to educate about dental needs and to eliminate the dental anxiety and fear. This will also help in inculcating good oral habits at an early age, for individual’s oral health as well as general health.
Objectives:

- To assess the prevalence of dental fear and anxiety, knowledge and awareness of oral health, oral habits among the school students of Dakshina Kannada district.

**Background:** Dakshina Kannada is one of the leading districts of Karnataka in education and literacy rate. This study is conducted at JNV, D.K. This is a residential school imparting quality education in the district and 90% of the students studying here are from rural areas and are from different parts of the district. Assessing the level of awareness, prevalence of dental fear and anxiety among these students would reflect the prevalence of the same in the district. This study can serve as a model and similar studies can be taken up in other parts of Country to assess the dental anxiety and fear and improve oral / general health care.

**Introduction**

Fear is an emotion induced by a perceived threat which causes entities to quickly pull far away from it and usually hide. It is a basic survival mechanism occurring in response to a specific stimulus, such as pain or the threat of danger. Dental fear or anxiety is the fear or anxiety which is an aversive psychological response to dental stimulus interpreted as potentially harmful or dangerous, usually within a dental context. Dental fear, dental anxiety and dental phobia are some terms used interchangeably in literature. This study aims at learning the prevalence of dental fear or anxiety among the school students in Dakshina Kannada district of Karnataka.

Habits are the routines of behavior that are repeated regularly and tend to occur subconsciously. In The American Journal of Psychology it is defined as "A habit, from the standpoint of psychology, is a more or less fixed way of thinking, willing, or feeling acquired through previous repetition of a mental experience. Oral Habits are those habits that involve repetitive behavior pattern which utilizes oral cavity. Nail biting, tongue thrusting, bruxism, biting objects other than while eating etc are some common adverse oral habits among the children.
A study by Amitha M Hegde et al\textsuperscript{2} emphasized that educating the common masses in regard to maintenance of good oral hygiene is necessary.

Anxiety or fear of treatment can lead to dental neglect which in turn leads to ill health which will reflect in an individual’s general and social well-being, particularly in children this can lead to inferiority complex, disorientation from academics / sports and other social problems.

The main source for information and awareness is the media, parents, friends and health care providers like private dental practitioners and dental colleges.

Awareness about oral health and dental care among the children is assessed through the questionnaire, in this study.

**Materials and methods**

**Design:** A Cross-sectional study design was made with the questionnaire comprising of 40 questions, covering the objectives of study. Questionnaire was independently framed with the aim of making the subject convenient to express his or her opinions clearly. Questionnaire - response activity was conducted in the school simultaneously for all the students. This was followed by an oral health awareness lecture using teaching aids and computer which comprised of awareness on specialties of Dentistry, need of oral care, impacts of dental fear and measures to avoid fear and anxiety and importance of oral health.

Chi-Squared test was used to study the significance of the opinions, based on gender and different age groups from 10-18 years.

**Results:**

Of the 374 student respondents, 185 were male and 189 were females. 115 students belonged to 10-12 year age group, 191 belonged to 13-15 year age group and 68 students belonged to 16-18 year age group.

335 respondents i.e. 89.57\% of the total had visited the dentist at least once. The rest 39, 10.43\% of the respondents had never been to a dentist in their life. No significant difference was found between males and females and also among the 3 age groups.

Regular dental Check-ups:
70.32% of the respondents go to the dentist only when there is some illness. 13.37% of them visit once in 6 months and 12.30% of them visit once in a year.

Attitude:

40.11% (150) of the students reported to have great concern, 32.09% (120) respondents show moderate concern, 26.20% (98) of them give importance depending on the severity of illness and oral problem and 1.60% say they have absolutely no concern on oral health. When compared it is evident that females are more concerned than the males (p= 0.0080). Significant difference in this regard is found between 3 age groups. 13-15 year age group show more concern towards oral health than 10-12 and 16-18 year age group (p=0.0013).

94.92% of the respondents feel taking care of teeth is very essential. 5.08% of them feel it is not important as other parts of the body. Significant difference in the opinion is observed between male and female respondents (p=0.0083). Positive attitude is more among 10-12 year age group followed by 13-15 and 16-18 year age group (p=0.0387).

Dental fear and anxiety:

147 students (39.30 %) feel anxious to visit the dentist. 24.60% reported to have had bad experience at the dentists’ clinic. Fig.1 shows the different bad experiences students had during their visit to the dentist. Other reasons than the given options students specified bad experience during Orthodontic treatments and waiting at the clinics.

Fig.1
Fear of injection syringe: 19.25% students are very much afraid of injection needle, 50.09% say tolerable level of fear and 21.66% reported to have no fear. Comparison shows significant difference in fear among female respondents than males (p=0.0063). However, no significant difference was found in different age groups.

Sight of different instruments inside the clinic is a factor of fear. 33.43% of respondents feel nervous by seeing various instruments at the clinic.

152 respondents reported to have fear of being scolded by the dentist. Certain common reasons for being afraid were missing previous appointment (5.67%), not following dentists instruction properly (16.42%), for not maintain good oral hygiene (5.37%), for crying (6.27%).

Extensive treatment: 28.96% respondents say to have very much fear, 51.34% of them are able to manage the fear and 19.70% say they have no fear of extensive treatments. Comparatively female respondents show more fear of extensive treatment than males (p=0.0435).

Sound of instruments used while preparing cavity is a source of disturbance for patients. 12.54% of respondents say sound of drilling is very much irritating, 40.30% of them feel irritated but get adapted in some time, and 47.16% feel no irritation. 33.73% of students reported to be afraid of feeling suffocation while
undergoing treatment. 34.33% of respondents are afraid of being awake during treatments. 10-12 year age group showed to have fear of being awake during treatment than other groups (p=0.0330). 22.46% respondents feel hesitation to express their problems to the dentist. Students of 10-12 year age group are found to be more hesitant than other age groups (p=0.0453).

Economic condition: Thought of expenses of treatment and consultation hinder 24.60% of respondents from visiting the dentist. Male respondents show more worries of expenditure than females (p=0.0027).

Oral habits: Assessment of oral habits showed shows students practice certain adverse habits like nail biting, tongue thrusting, grinding teeth and biting objects like pens, pencils etc. Table.1 shows the details of prevalence of adverse habits.

<table>
<thead>
<tr>
<th>Habit</th>
<th>No. of respondents</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nail biting</td>
<td>189</td>
<td>50.53</td>
</tr>
<tr>
<td>Tongue thrusting</td>
<td>61</td>
<td>16.31</td>
</tr>
<tr>
<td>Grinding teeth</td>
<td>29</td>
<td>7.75</td>
</tr>
<tr>
<td>Biting objects</td>
<td>102</td>
<td>27.27</td>
</tr>
</tbody>
</table>

298 respondents (79.68%) don’t bother to rinse their mouth properly. 71.66% students replace their toothbrush once in 3 months, 22.19% replace once in 6 months, 2.14% replace once in a year and 4.01% don’t bother to change their toothbrush. 21.66% of students like aerated drinks and drink more often. Male respondents like and have aerated drinks more often than females (p=0.0001). Out of the 3 age groups considered in this study, 16-18 year age group like and have aerated drinks more often than others (p=0.0176).

Adverse practices: Students are found to have some adverse practices of using teeth for different purposes other than eating. Table.2 shows the details.
<table>
<thead>
<tr>
<th>Adverse practices</th>
<th>No of respondents</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>To tear open something</td>
<td>324</td>
<td>86.63</td>
</tr>
<tr>
<td>To uncap some bottles</td>
<td>250</td>
<td>66.84</td>
</tr>
<tr>
<td>To straighten some bent objects</td>
<td>251</td>
<td>67.11</td>
</tr>
<tr>
<td>To cut the nails</td>
<td>212</td>
<td>56.68</td>
</tr>
<tr>
<td>No, I don't use for any other purpose</td>
<td>17</td>
<td>4.55</td>
</tr>
</tbody>
</table>

Oral health awareness:

97.33% of the respondents are aware of adverse effects of tobacco, gutka and pan masala. 59.89% of the respondents say no to consuming alcohol as they are aware of its adverse effects. 38.77% of students say one can consume alcohol occasionally by not being addicted to it. 97.86% students are aware of adverse effects of habit of smoking.

64.97% of the respondents are aware of different specialties in dentistry. 93.32% of the students feel there is a need of government dental hospital in a taluk or district for the welfare of patients.

**Discussion:**

School health survey is an excellent means of screening a good number of population. This study was conducted in a residential school where 90% of the students comprised of rural population of Dakshina Kannada district.

It was reported by WHO (2008) that majority of the students (52%) visited the dentist only when there was dental pain. Our study is in agreement with this report, 70.32% of the students visit dentist only when there is some illness. Only 50 students out of 374 (13.37%) visit dentist once in 6 months. This may be due to lack of knowledge about oral health and its importance.

Our study has found that 19.25% of the 374 students participated in the survey reported that they are very much afraid of injections and 59.09% of the respondents reported to have a tolerable level of fear of injections. Milgrom P et al (1997), reported that fear of injections has been shown to be the major cause of dental fear and uncooperative behavior among 7-14 year old age group. However our study didn’t find any significant difference among age
groups but found that more of girls (23.81%) than boys (14.59%) have the fear of injections (p=0.0063*). Sight of instruments are said to be source of fear. Our study found 33.43% of respondents feel nervous by seeing various instruments at the clinic. Also sound of drilling instrument during restorative procedures are irritating as reported by the students. This is in accordance with previous studies by Hmud R et al (2009)\textsuperscript{5}. A significant number of students were ignorant of mouth rinsing after intake sugary food items. 298 out of 374 respondents reported this kind of habit which is a clear indication of ignorance. Likeness and often consumption of aerated beverages was reported. Males (30.26%) were in more number compared to female respondents (p=0.0001). 21.6% students like aerated drinks and have more often. This is low in comparison to the study by Nagina Parveen et al (2011)\textsuperscript{6}, where they reported that 57.9% of the participants have frequent intake of soft drinks. This difference can be attributed to the availability of soft drinks and other snacks around school campus. It also shows that students are attracted towards them for the taste and appearance than the nutritional value. There might be the influence of media and advertisements.

Nail biting was a major adverse oral habit found in this study. 50.53% of the students reported the habit of nail biting. A previous study in the district by Amitha M Hegde et al\textsuperscript{2} reported prevalence of 44.11% of nail biting habit among the screened population accompanied by worn out incisal edges and orthodontic complications as open bite. Our study was only confined to a questionnaire-response survey, so couldn't conduct clinical examination of students. Our study also found that students use teeth for other purposes like biting objects like pencils and pens, using teeth for tearing certain packets, uncap bottles etc and these practices are quite evident. This may be attributed to the casual attitude and ignorance towards oral health and also lack of awareness regarding oral health and hygiene.

Students are well aware of the adverse effects of alcohol, tobacco, and pan and ghutka masala. This may be due to the awareness programs conducted in the school and also the good education that students receive in the institution. Increasing awareness can also be attributed to the media.
Majority of the students also expressed that there is a need of Government dental hospital at taluk / district level.

This study was only confined to a questionnaire based survey. Surveys along with clinical examination and observations on habits and their effects on the subject and there is scope for descriptive studies. 

(p<0.05 significant)

**Conclusion:**

This study based on questionnaire based response of the students has given a picture of level of prevalence of awareness, fear, adverse oral habits.

- Majority of the respondents visit the dentist only when there is some illness.
- Fear of injection was found to be one of the main cause of dental fear.
- Nail biting was found to be more prevalent among the students.

There is a need of oral health awareness programs and counselling for the students in Dakshina Kannada district to make them more conscious about oral health and its importance. Proper counselling on fear management is needed for anxious students. Parents and teachers can also be involved in awareness programs. Schools can serve as best platforms for promoting oral health. Regular dental check-up camps can make people oriented towards oral health care facilities and advancements. We conclude that there is need to conduct more surveys to educate the masses and promote oral health care. Oral health care providers should move out of their boundaries and work for a happy smile.

**References:**


