



Awareness About Malocclusion Among Rural Adolescents and Young Adult Population - A Questionnaire Study

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Abstract

Background: Malocclusion is a common phenomenon observed in this generation. Seeking treatment for malocclusion is entirely a independent decision of the individual. The effect caused by it on the daily life of the individual. These effects might seem insignificant individually but when added together cause a cumulative effect on the day to day life. Knowledge regarding the effects of malocclusion is necessary to find the internal motivation needed to seek and pursue orthodontic treatment.

Aim: The aim of the study is to analyse the level of awareness regarding the effects of malocclusion among rural adolescents and young adults.

Materials and Methods: A questionnaire containing 15 questions was prepared. The survey was conducted among the adolescents and young adults with malocclusion of the rural areas of Madurai district, Tamilnadu. A total of 139 responses were collected.

Results: Out of the 139 responses, about 44.8% of the participants were not awareness of the correlation between the association between malocclusion and problems with gingival bleeding, masticatory issues, halitosis, speech impairment, food lodgement and trauma. About 47.8% of individuals are affected psycho - socially due to the presence of malocclusion.

Conclusion: It is evident from the study that rural adolescents and young adults are aware of the presence of malocclusion and to some extent the effects of it on daily life. But the awareness regarding the early treatment options are not present. The reason behind not seeking treatment is also discussed.

Keywords: Malocclusion; Rural Adolescents and Young Adults; Psycho-Social Impact of Malocclusion

Introduction

Malocclusion is an aesthetically handicapping disorder to some extent and has been known to be producing subtle psychological influences among the younger population even without their consciousness. Patients with malocclusion also tend to face certain problems pertaining to function like problem with mastication, halitosis and other periodontal problems. Due to lack of awareness regarding the dental conditions in our society, the association between the presence of malocclusion and other adjuvant problems is not popular among commoners. Malocclusion has unintention-

ally become a face value determining factor in our society, especially among the age group under discussion. Adolescence being the prime age for peer influence and criticism based on appearance. The attitude and lifestyle of the rural population remains different from the urban even today. This study aims at understanding the degree to which the presence of malocclusion is debilitating for this population and the reason behind not pursuing the treatment among the rural population. These give us clear ideas regarding the problems faced by the rural population in reaching out for treatment and help us take the required measure for the same.

Objectives

To assess

- The level of understanding about the potential effects of malocclusion in our daily life
- The amount of interest invested by the adolescents and young adults of rural population in knowing their oral conditions
- The awareness regarding the various treatment options available
- The reason behind not pursuing treatment till date.

Materials and Method

Within the range of accessibility during the pandemic situation, a total of 139 adolescents and young adults were chosen for the study with the help of the patients of similar age attending orthodontic treatment in the institution, reporting from rural areas. A Questionnaire consisting of 15 multiple choice and an essay type question was formulated in both universally acknowledged language (English) and local language (Tamil) in a online survey software. Links generated for both the format were shared through online chatting platform (Whatsapp) to the friends of the patients and were personally motivated to answer the question. The identities of the participants were concealed on request.

The study population

For this study adolescents and young adults between the age of 15 – 25 years of age were chosen. Individuals with moderate to severe malocclusion were chosen from the nearby villages of Madurai city in Tamilnadu. For the ease of identifying and approaching, the individuals were chosen from the villages from where we had patients undergoing treatment were chosen. The links generated through the survey software were forwarded to the individual based on their preference of language.

The questionnaire

The questions were directed to analyse the opinion of the patients towards esthetics and alignment of teeth, the possible impact of malocclusion on everyday life and the practical difficulty faced by the participants in pursuing orthodontic treatment. The knowledge regarding the various treatment options available is also analysed. The first two questions were framed to analyse their opinion about teeth as a aesthetic factor in human body and their perception about their existing teeth arrangement. Eleven questions were directed towards the potential difficulties faced due to

malocclusion. Through this, the impact of untreated malocclusion can be understood and the attitude of the subjects of this age group towards these problem were analysed. Through the next three questions were directed towards their awareness regarding the early intervention options in Orthodontics were analysed.

Validation of the questionnaire

The initial validation was done by the professionals (teaching staffs) of the Department of Orthodontics, Best Dental Science College and Hospital, Madurai. The relevance of the material translated to tamil was validated by local language experts.

Inclusion Criteria

1. Age - 15 to 25 years
2. Presence of moderate to severe crowding
3. Born and brought up in rural areas of Madurai (based on the categorisation by Census of India 2011 - 75% of the main male workers are engaged in agricultural activities for income)
4. Individuals who have completed higher secondary school.

Exclusion criteria

- Patient with H/o Orthodontic treatment.
- Individuals with minimum interaction outside their village (with less interaction, there is an obvious lack of access to information regarding malocclusion and its treatment. They appear to be less motivated to correct it because of their sedentary lifestyle).

Results

Though the study was conducted among the rural population, the awareness about malocclusion seems to be sound among the residents of Madurai villages. The importance of teeth alignment in contributing towards aesthetics is predominant according to the study outcomes. Out of the 115 participants, 87 members claimed that teeth played an important role in determining the appearance, 21 members answered in agreement with the 87 members but yet were less concerned about their teeth arrangement and 7 others claimed that teeth has no role to play in determining aesthetics. About 89 participants were not satisfied with their teeth arrangement and wanted improvement. The results of the rest of the questions relating to the problems faced due to malocclusion are as follows:

S.No	Problems Mentioned in The Questions	% Of Answers Obtained
1.	Presence of bleeding gums	Yes - 55% No - 40% No idea - 5%
2.	Presence of bad breadth	Yes - 58.3% No - 28.7% Not concerned - 13%
3.	Difficulty in pronouncing certain words	Never - 63.5% Accommodated by practice- 27.8% Persisting debilitation - 8.7%
4.	Poor maintenance of oral hygiene due to inaccessibility to tooth surface	Yes - 25.4% Not aware that this kind problem might exist - 27.2% No - 47.4%
5.	Food lodgement	No - 21.7% Yes - 78.3%
6.	Problem with mastication	No - 66.1 % Yes - 33.9%
7.	Problem with the TMJ (clicking or popping sounds)	No - 53% Yes - 47%
8.	Trauma due to proclination of teeth	No - 87.8% Yes - 12.2%
9.	Psychological impact - resultant name tags from malocclusion	No - 61.7% Yes - 38.3%
10.	Social impact - smiling naturally in public	Yes - 51.3% No - 48.7%
11.	Social impact - stage fear due to lack of confidence in appearance created by malocclusion	Yes - 63.9% No - 46.1%
12.	Awareness regarding early treatment options	Not aware - 61.8% Aware - 38.2%
13.	Interested in getting treated	No- 60% Yes- 40%

Table 1

Discussion

The importance of dental treatment among rural population is rising from the past decade in Tamilnadu. The preference has always been given to emergency conditions like pulpal involvements or periodontal conditions. Rarely the importance for aesthetics is been observed among the villagers. With the increasing literacy

rate and the growing virtual world, where the distance between two individuals poles apart are narrowed down to zero, the importance of aesthetics are growing among the rural population as well in our country.

The classic feature of crowded teeth is poor maintenance of oral hygiene. This is due to the inaccessibility of certain areas due to

overlapping of the teeth leading to plaque accumulation and resulting periodontal issues beginning with bleeding gums. Bleeding gums are the notable feature that alarms the patients and stirs their concern for teeth among commoners. According to the survey results about 50% of the participants face the problem of bleeding gums and bad breath. The awareness regarding the reason behind these problems is not present. People have better accommodated themselves to the shortcoming from malocclusion and have practiced living with it. About 78% of the participants suffer from food lodgment, which at this age should be associated with malocclusion and plaque accumulation as mentioned earlier. A strong association between lower masticatory efficiency and malocclusion has been established in the previous studies [1-3]. In this study, 33.9% of the participants have reported this problem. This might be an indication of either the lack of awareness among the individuals regarding the association between malocclusion and mastication or it might explain the versatility of the rural population in adapting to the environment. The association between the TMJ disorders and the occurrence of malocclusion has always been a myth. Previous studies have established the association between the presence of TMD in certain types of malocclusions [4,5]. Such evident associations cannot be concluded from a questionnaire study. About 53% of the population claimed no problem with the TMJ according to this study. The reliability of this data is questionable since the answer is completely based on the knowledge of the patient in identifying the condition.

Various studies have established the psycho-social impact of malocclusion on the quality of life of the adolescents is been discussed on various studies [6-9]. I (Anzo - Cortes, *et al.* conducted a questionnaire study to evaluate the extent of psychological impact of malocclusion. He concluded that about 40% of the patient approaching for treatment of malocclusion had a traumatic experience with their peers making fun of their appearance [10]. Usually this begins with disparaging names and eventually ending up being widely recognised with the same in the social circle. This ends up affecting the self esteem of the individual and lowering the confidence impacting their performance in any kind of audience. About 61.7% of the individuals have claimed that they have been tagged with nicknames associated with their teeth arrangement which includes me. Out of the study population of 137 members, 63.7% individuals have confined themselves from performing before an audience, in important stages of life, indirectly affecting their career.

Yet these individuals have not taken initiative to correct the teeth. When questioned regarding the reason behind it, most of the answers were pointing towards the economic status of their families. In India, adolescents are still financially dependent on parents unlike the western countries. Hence, the economic status of the family plays a major role in considering treatment for malocclusion. In villages of Madurai, the major source of income is agriculture and hence, treating malocclusion is still considered as cosmetic purpose and limited to people who participate in visual media, in some families. Some other causes that we might come across during normal practice is superstition. Blind beliefs regarding the extraction of one tooth affecting all the other teeth in the oral cavity (assuming the teeth arrangement in close relation to the concrete wall where removal of bricks can affect the strength of the wall as a whole), considering the buccally placed canine as a lucky charm etc are still prevalent among a considerable amount of population in the rural areas. The knowledge regarding the preventive and interceptive orthodontics is not that evident in the considered population. 61.8% of the population was unaware of the various treatment opportunities available in orthodontics. The rest of the 38.2% of the population might be aware of this because of the presence of two dental schools in the district should be considered.

Conclusion

From the results of this study, we can arrive at the idea that presence of malocclusion has considerably affected the physical and psychological aspects of the individuals in rural population. The awareness regarding the effects of malocclusion is considerably low among the adolescents and young adults of the rural population. Cost of treatment is considered to be the major cause for not seeking treatment. This can be due to the fact that Orthodontists charge high considering their initial investment. To meet the ends in the middle, availability of orthodontic treatment can be arranged in the primary health care centres at affordable costs by the government. This can also ensure a secure income to the Orthodontist and ensure treatment availability at subsidy cost to the patients with debilitating malocclusions. Other methods can be including the Orthodontic treatment into government health care schemes. Fixed orthodontic mechanotherapy, functional appliance therapy can be covered under this scheme. Orthognathic surgeries can be carried out in the district government hospitals. It is really important to ensure that only the truly affected individuals get benefitted from this scheme.

Limitations

1. Not sufficient sample science
2. It is better if the participants are screened for the extent of malocclusion for better understanding
3. Interviewing and registering the patients' view regarding the problems faced by them in pursuing the treatment can help us in deducing the solution.

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