



International Journal of Medical Research & Health Sciences

www.ijmrhs.com Volume 2 Issue 4 Oct-Dec Coden: IJMRHS Copyright ©2013 ISSN: 2319-5886
Received: 27th Aug 2013 Revised: 16th Sep 2013 Accepted: 28th Sep 2013

Research article

AN EVALUATION OF ORAL HEALTH IN ADOLESCENTS OF AHMEDABAD CITY

Parekh Paras A¹, *Shah Ankita P²

¹ Post Graduate student, Department of Physiology, B.J. Medical College, Ahmedabad, Gujarat, India.

² Former Graduate student, Govt. Dental College & Hospital, Ahmedabad, Gujarat, India

*Corresponding Author email: ankita_shah1313@yahoo.com

ABSTRACT

Context: The present study evaluated oral hygiene & anomalies of tooth formation and eruption in adolescents. This was a cross-sectional study, with the primary data was collected from two different schools in Ahmedabad, Gujarat, India. **Aims:** Aim of the study was to evaluate oral health that includes maintenance of oral hygiene and dental anomalies in adolescents of Ahmedabad city. **Methods and Material:** In this study, total 500 healthy male and female subjects between 14-16 years of age were selected for the study and examined for the oral hygiene in the form of cleaning of teeth after all meal, flossing and regular visit to dentist for check-up. Also they were observed for dental anomalies which were divided into three types viz. dentitional, occlusal and space anomalies. Comparison of outcome parameters was calculated with significance test. **Results:** Awareness of oral hygiene was found improper in more than half of all adolescents. Occlusal anomalies were found in 48.8% of males & 50.8% of females which were most common among all anomalies. Though all anomalies were more prevalent in female than male subjects, dentitional anomalies were significantly more in female subject. **Conclusions:** Awareness for oral hygiene in adolescent of Ahmedabad city is found to be less. Females are even less aware than male. Malocclusion is the most common anomaly. All anomalies are more common in females.

Keywords: Oral hygiene, Anomaly, Mal-occlusion

INTRODUCTION

Oral hygiene is the practice of keeping the mouth clean and healthy by brushing and flossing to prevent the build-up of plaque, the sticky film of bacteria and food that forms on the teeth. Plaque adheres to the crevices and fissures of the teeth and generates acids that, when not removed on a regular basis, slowly eat away, or decay, the protective enamel surface of the teeth, causing holes (cavities) to form.^{1,2} The primary and permanent dentitions are subject to considerable

variations in the number, size and form of teeth and the structure of the dental tissue. These developmental anomalies may be genetically determined or brought about by environmentally induced systemic or local changes or possibly by combination of these factors. One of the etiological factor of malocclusion is the dental anomalies.^{3,4} Malocclusion is classified into three main groups (1) Dentitional anomalies - anomalies restricted to individual teeth

(2) Occlusion anomalies - anomalies in the positional relationship between the dental arches, and (3) Space anomalies.^{5,6} The present study was planned out to assess oral hygiene and the anomalies of tooth formation and eruption in males and female of age group of 14-16 years and to compare these anomalies in both sexes.

SUBJECTS AND METHODS

This study was carried out in two different schools in Ahmedabad City in India. All procedures followed were in accordance with the ethical standards of experimentation and with the Helsinki Declaration of 1975, as revised in 2000.⁷ Selection of study participant was done randomly. Prior permission from the authority of each school was obtained. Total number of 250 boys and 250 girls between 14 to 16 years of age.

Inclusion criteria: In whom permanent teeth except third molar tooth be fully erupted and are not undergone orthodontic appliance therapy, irrespective of simultaneous extractions were selected for dental examination. Written consent was obtained and data collection forms were distributed.

Then personal and family history that includes frequency of brush and floss in a day, frequency of visit to dentist for regular dental check-up etc. was recorded. The boys and girls were examined in the premises of the school during health camp.

Intra-Oral Examination:

Soft tissue: The condition of oral mucosa is good indicator of general health. Examination of mucosa of palate, tongue and cheeks for inflammation, any swelling, white or red patches, ulcers etc was done.

Periodontal tissue: Examination of periodontal pocketing, oral hygiene, tooth mobility was done.

RESULTS

Table 1: Number of visits to dentist for regular dental check-up

	Male subject		Female subject	
	Number	Percentage %	Number	Percentage %
No any visit in a year	169	67.6	195	78
<3 visits in a year	55	22	46	18.4
3 or more visits in a year	26	10.4	9	3.6
Total	250		250	

Teeth: The teeth present were counted and recorded in full dental charting. The supernumerary or missing teeth were looked for. If any missing or supernumerary tooth was found its location was noted. After counting teeth, oral cavity was observed crowded teeth and their location was noted. Oral cavity was searched for the spacing of teeth, and if present, it was noted whether they were in upper or lower arch. The size and shape of the crown of teeth were inspected. Tooth size was diagnosed as anomalous when the norms for the sex and racial group concerned were exceeded. The teeth were inspected for discoloration, after taking the history and grouped under intrinsic/extrinsic discoloration.

Occlusion⁸: Inspecting the distance between the upper and Lower incisors in the horizontal plane identified the over jet. The Maxillary or mandible over jet and distal medial molar occlusions were looked for. The overbite was identified inspecting vertical overlap of the upper and lower incisors when viewed interiorly, The overbite which was greater than one half was described as being increased, and was noted as overbite, The over bite which was less than one third, was described as being reduced. Open bite was identified by space vertically between the incisors when the buckle segment teeth were in occlusion. Cross bite was identified by buccal cusps of the lower premolars and/or molars occluded buccal cusp of the upper premolars and/or molars. Scissor bite were identified by buccal cusps of the lower Premolars and/or molars occluded lingual to the lingual cusps of the upper premolars or molars.⁵ Data was analyzed using Graphpad prism (6.0.3) software.

Table 2 : Different anomalies found in Male and Female subjects.

Anomalies	Male		Female		P value
	Number	%	Number	%	
Dentitional anomalies	83	33.2	103	41.2	< 0.05*
Occlusal anomalies	122	48.8	128	50.8	> 0.05
Space anomalies	108	43.2	112	44.8	> 0.05

*Significant

Awareness of oral hygiene is less in females. Occlusal anomalies are more predominant among all anomalies. All anomalies are more prevalent in females. Dentitional anomalies are significantly more in females

DISCUSSION

Maintaining oral hygiene should be a lifelong habit. With proper brushing and flossing, oral hygiene may be maintained and oral health problems may be avoided. Regular oral care preserves speech and eating functions, thus prolonging the quality of life. Variations of teeth have been an enduring interest to a clinical practitioner. No two teeth are alike. It is the odd, peculiar, and stranger arrangement of teeth on which we focus our attention here. They are called anomalies. The primary and permanent dentitions are subjected to considerable variations in the number, size, and form of teeth and the structure of dental tissue. These developmental anomalies may be genetically determined or systematic, prenatal, postnatal environmental and may be due to local causes.³ The anomalies may be symmetrical or asymmetrical and indifferent degrees of severity. Variation in the morphology, number, time and order of eruption of the teeth are important etiologic factors in the establishment of malocclusion.⁹ The prevalence of dental anomalies observed in deciduous dentition is lower than in the mixed and permanent dentitions. Probably in part due to the fact that many conditions do not develop or become clearly apparent before the age of 7 to 8 years or even later.^{3,9} This study suggested a fact that recognition of dental anomalies is essential in determining appropriate treatment for each

patient. Early diagnosis and timely intervention could reduce or eliminate the need for orthodontic treatment and prevent serious complications. It also determines the type, prevalence and relative severity of the condition in the population. This study gives the health authorities positive information concerning the need for and the progress of dental health programs. Malocclusion is variation from ideal occlusion, which has a dental health and / or psychosocial implications for an individual.^{9,10} It is a condition where teeth do not erupt in normal position causing unsightly appearance.^{11,12} An epidemiological study done by Sven Helm (1968)⁵ in Danish children showed that the frequency of dentitional anomalies in males was 33.5% and 42.2% females. In the present study the figure for males was 33.2% and for females 41.2%.The results are almost matching. The occlusion anomalies that recorded by Sven Helm were present in 50.1% males and 50.4% in females. In the present study it was present in 48.8% of males and 50.8% females. According to Helm the space anomalies were present in 47.1% males and 47.4% in females.

CONCLUSION

From present study it may be concluded that awareness of oral hygiene in adolescents needs to be increased through health check up camps and electronic media to decrease overall burden on their pockets in future. Occlusal anomaly is the most common anomaly in both sex while dentitional anomalies are significantly more common in females. Though this is pilot study, there is requiring more detail research in response to larger sample size and statistical analysis in India.

ACKNOWLEDGEMENT

We would like to thank Principals of both schools who have given permission to arrange health check-up camp in their schools, and also to all students who have actively participated in our study.

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