Research Article

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Prevalence and Orthodontic Needs in Treatment of Midline Diastema in Darbhanga, Bihar, India

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ABSTRACT

Background: A space between adjacent teeth is called a "diastema". Midline diastemata (or diastemas) arise in roughly 98% of 6-year-olds, 49% of 11-year-olds and 7% of 12–18 year olds. In some beliefs, particularly in Africa, in the present and the past, diastema between teeth was one of the pretty influences, even some persons with diverse ways make space among their teeth.

Materials and Methods: This descriptive study was carried out in the OPD department of community health center on the 300 subjects. The sampling method was systematic random sampling.

Results: Total Number patients with diastema is thirty was thirty. The prevalence of maxillary diastema was 6.3% and mandibular diastema 3.6%. Among the total number of diastema cases were 30 among which 43.3% were males and 56.6 percent were females.

Conclusion: Females are more affected than males with midline diastema. Moreover, males were more interested in getting it treated then females.

Keywords: Prevalence, orthodontic needs, diastema.

INTRODUCTION

A space between adjacent teeth is called a "diastema". Midline diastemata (or diastemas) arise in roughly 98% of 6-year-olds, 49% of 11-year-olds and 7% of 12–18 year olds.[1] In utmost children, the medial erupting trail of the maxillary canines and maxillary lateral incisors, as defined by Broadbent results in standard closure of this space.[2] In approximately few personalities however, the diastema does not close naturally. The remaining presence of a diastema amid the maxillary central incisors in adults frequently is considered an esthetic or malocclusion problem.[3] Midline diastema's can be dentoalveolar, physiological, due to a absent tooth, due to peg fashioned lateral, midline extra teeth, proclination of the labial section, prominent frenum and due to a self-injured pathology by tongue penetrating. Angle and Sicher specified that an abnormal frenum is a cause of midline diastema, while Tait in his study described that frenum is an effect and not a cause for the incidence of diastema.[4]

In some beliefs, particularly in Africa, in the present and the past, diastema between teeth was one of the

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pretty influence, even some persons with diverse ways make space among their teeth.[5] In France, call for them the chance teeth.[6] In Australia, people trust that the children with space between their teeth can be rich people in the future.[7]

Most prevalent causes of midline diastema defined in following:

1. The Space between central teeth in permanent dentition before the canine teeth' eruption is occasionally possible, modifying after the canine eruption.[8] (if it is not more than 2mm).

2. Lack of miso-distal measurement of teeth due to enlarged dental arch length can damage these proportions and cases diastema.[9]

3. Up usual attachment frenulum or profuse and huge labial frenulum can case the midline maxillary diastema.[10]

4. Pressure behaviors like thumb sucking, trust of tongue can cause to midline diastema. These patient usually have over-all spacing in anterior teeth with front teeth proclination.[11]

5. Iatrog Hereditary and race can cause to occur the midline maxillary diastema, even though its reported the high number of incidence midline maxillary diastema in the black race.[12]

MATERIALS AND METHODS

This descriptive study was carried out in the OPD department of community health center, Department of Orthodontics, Darbhanga Bihar, on the 300 subjects. The sampling method was systematic random sampling. 300 OPD patients were arbitrarily selected during the winters. After carefully direct intra-oral examination of 300 patients with a single researcher, on the dental unit, with adequate light and a dental examination kit and direct vision, the data was conveying to the pre-prepared questionnaire. In the intra-oral examination, the existence of maxillary midline diastema and arch form was detected. The questionnaires' collected data was added to the coding paper and then to the SPSS.25 software and analyzed.

Patients who did not got any restorative treatment, orthodontics treatment, and patients with sound anterior tooth were selected for the study. Patients who were less than 15-year-old and more than 30-year-old were excluded from the study. Patient who was treated for orthodontic and estheic reason were also excluded from the study.

RESULTS

This descriptive study was carried out in the OPD department of community health center, Department of Orthodontics, Darbhanga Bihar, on the 300 subjects. The sampling method was systematic random sampling. 300 OPD patients were arbitrarily selected during the winters. Total Number patients with diastema is thirty was thirty. The prevalence of maxillary diastema was 6.3% and mandibular diastema 3.6% (Table 1). Among the total number of diastema cases were 30 among which 43.3% were males and 56.6 percent were females (Table 2). Among the male diastema cases, 76.92% got treated and only 41.17% of female patients got treated in orthodontic clinic.

Table 1: Prevalence of maxillary and mandibular midline diastema.

	Total Subject	No of Diastema Subject	Prevalence
Maxillary Diastema	300	19	6.3
Mandible Diastema	300	11	3.6

Table 2: Gender distribution of diasthema.

Total Diastema subjects	Male	Female
30	13	17
Percentage	43.3%	56.6%

Table 3: Number of subjects who opted for orthodontics treatment.

Total Diastema subjects	No of subjects needed diastema closure	No of subjects underwent diastema closure	Percentage
Male	13	10	76.92%
Female	17	7	41.17%

DISCUSSION

From the present study, it is determined that the incidence of maxillary midline diastema is found to be about 6.3% in maxilla and 3.6 % in mandible. The result found in this study is roughly comparable to the other countries studies results. In a research done by done by Weymen (1967), 5-3% and Gardiner (1987), 7% reported similar results. In this study, the existence of midline maxillary diastema in males was 6.3%, a more than female(3.6%).[13]

In a research related to maxillary diastema in Baqdad city of Iraq in 2013, 40% in males and 16% in females exist maxillary diastema was similar to the results of our study.[14] In one more research in Taichung city of Tiland in 2012, the incidence of diastema in males was more than female.

In a research completed about alveolar arch morphology in School of dentistry of Piracicaba in 2011 among 51 subjects (21/male and 30/female) amid 15-19 ages and Caucasian race, the resulting results found very comparable to the finding results in this study.

CONCLUSION

Out of 300 subjects, a total of 30 subjects had diastema. Among 30 subjects, 13 were males and 17 were females. A total of 43.3% were males and 56.6% were females who suffered from midline diastema. Males were more aware in getting the diastema treated by an orthodontist then the females.

CONFLICTS OF INTEREST

The authors declare they have no potential conflict of interests regarding this article.

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