

ORIGINAL ARTICLE

Frequency of Crowding in patients reporting at Nishtar Institute of Dentistry, Multan

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ABSTRACT

Aim: To determine the frequency of crowding in patients reporting at Nishtar Institute of Dentistry, Multan.

Methods: A total of 200 patients (126 females, 74 males) having malocclusion in permanent dentition were included in this cross-sectional study. Patients in the age group 7 years and above were included in the study. Statistical analysis was done by using SPSS version 20.0. Cross tabulations were performed for gender and age groups and chi square test was used to determine association.

Results: The frequency of crowding was found to be 29%. The percentage of crowding in males was 12% and females 17%. While the frequency of crowding was 31% in males and 28% in females. It was found that there was a decrease in crowding with increasing age in both genders.

Conclusion: Crowding was more frequent in females than males.

Keywords: Malocclusion, Alignment, Orthodontics.

INTRODUCTION

Dental crowding is one of the most commonly reported malocclusion that has been present for centuries. It may affect oral health by increasing susceptibility to dental caries and periodontal disease, and may have significant impact on dental and facial aesthetics of the patients¹.

It is classified as mild, moderate, or severe, according to its severity. Van der Linden, classified crowding depending upon the timing of appearance in the dentition as primary, secondary and tertiary crowding. Crowding may develop later between 15 and 20 years of age, known as late dental crowding. It occurs in the mandibular incisors region during adolescence and later stages of life. It is caused due to genetic or local factors²⁻⁴. Puri and colleagues conducted a study to determine if dental size contributed to crowding. They found that in the group with poor alignment, the teeth were significantly wider compared to the control group^{5,6}.

Very few studies have been done on this topic in Pakistan but there has been no study in southern Punjab population sample so this necessitated the need for us to carry out this study. The objective of this study is to determine the frequency of crowding.

MATERIALS AND METHODS

Preset cross-sectional study was conducted study after taking informed consent and ethics approval by including total of 200 (126 females, 74 males) having malocclusion in permanent dentition. Patients included in this study were 7 years and above of both genders, having no history of

extraction of permanent teeth, having no grossly decayed teeth, no previous orthodontic treatment, and no cleft lip and palate or any craniofacial syndromes. Following patients were excluded: patients with any medical issues, patients with history of any orthodontic treatment and patients with any cranio-facial anomalies or syndromes.

Intra oral examination was done on subjects who visited department of orthodontics at Nishtar Institute of Dentistry Multan from Jan 2019- Jan 2021. Intra oral examination was carried out with help of mouth mirror and probe. Crowding was identified clinically by using simple eyeball method and noted down for presence or absence.

Statistical analysis were done by using SPSS version 20.0. Descriptive statistics were done to determine frequency of crowding. Chi square test was done to determine association of crowding and gender. Odds ratios were calculated for different age groups to determine likelihood of crowding in different groups and in genders.

RESULTS

The total of cases exposed to crowding in present study of 200 prospective samples was found to be 29%. The proportion of crowding in males was 12% and females 17%. It shows in females crowding was more prevalent than in males as per odds ratio of 1.07 but with insignificant difference. The Chi-Square test (Table 1) on cross tabulation of crowding and gender presents insignificant results with p-value 0.62. It was found that there was a decrease in crowding with increasing age in both genders.

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Table1: Crowding and gender

Gender	Crowding	No crowding	Prevalence=crowding/total of gender	Odds Ratio	Chi Square test
Male	23	51	23/74=0.31	107	Value: 0.247
Female	35	91	35/126 =0.27		Df:1
Exposed proportion	58/200=0.29	0.71	N=200		Asymp. Sig. (2-sided): 19

DISCUSSION

In the present study the frequency of crowding was found to be 29%.Panhalkar et al⁷ in a study found the frequency of crowding around 5%, Brito et al⁸ in a study found it 45.5% and Khan et al⁹ revealed that mild maxillary crowding, mild mandibular crowding & mild mandibular spacing were the most common malocclusions. Normando et al¹⁰ found significantly higher prevalence of dental crowding i.e. 28%.

The proportion of crowding in males was 12% and females17%. The frequency of crowding was 31% in males and 28% in females. In his study we found higher prevalence of crowding in males (P < 0.05). Panhalkar et al⁷ found in their study that crowding is more prevalent in girls.

In the present study we found high likelihood of males in 14-20 years age group having more crowding than females compared to 7-13 age group. This is in agreement with previously conducted studies by Šidlauskas and others¹⁻¹⁴. In another study it was found that the age range 17-19 years exhibits the highest frequency of well aligned incisor and age ranges 13-15 years shows the highest frequency of incisors crowding among all of the age groups¹⁵.

CONCLUSION

Crowding was more frequent in females than males. There is decreased likelihood of crowding with increasing age in both genders as compared to 7-13 years age group.

Conflict of interest: Nil

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