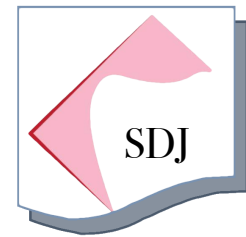


Angle's classification of first molar occlusion among patients attending a private orthodontic clinic in Sulaimani City



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Anwar Ahmad Amin^a, Awder Nuree Arif^b & Zihwan Jamal Rashid^b

Abstract

Objectives: The aim of this study were to find the prevalence of Angle's classification and distribution of malocclusion amongst patients attending a private orthodontic clinic in Sulaimani City.

Method: Pre-treatment orthodontic records of 171 patients of both genders and different age groups fulfilled selection criteria were obtained for the study. The data from case sheets and dental casts were analyzed to determine the prevalence of angles class I, class II, and class III malocclusion.

Results: Malocclusion was found to be higher in females than males. Patient's malocclusions were as follow: 56 (33%) Class I, 83 (48%) Class II, and 32 (19%) Class III. Patients of 12-17 years age group were found to be more interested in orthodontic treatment than other age groups.

Conclusions: Class II malocclusion created almost half of the patients seeking orthodontic treatment in private clinic in Sulaimani City. Furthermore majority of orthodontic cases were young patients (12-17 age group) with females showing a higher percentage than males.

Keywords: Dental malocclusion, Angle's classification, Orthodontic patient.

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Introduction:

The epidemiological data on prevalence of malocclusion is an important determinant in planning appropriate levels of orthodontic treatment⁽¹⁾.

Enormous epidemiological studies have been conducted to find the prevalence of malocclusion in different racial and ethnic groups. There are growing consensus that the incidence varies from one to another populations⁽²⁾. The Angle's classification method has been widely used as a qualitative epidemiological tool for malocclusion assessment⁽³⁾.

To best of our knowledge, this is the first study looking for the prevalence of Angle's classification among patients attending private orthodontic clinic in Sulaimani City.

Method:

This retrospective study conducted on orthodontic patients who attended a private orthodontic clinic in Sulaimani City (January, 2013 to May, 2014). The study enrolled 200 patients. However 29 patients were excluded as permanent 1st molars were absent.

Patients were between 6-35 years of age and they were classified into three age groups (6-11, 12-17 and 18-35)⁽⁴⁾.

Pre-treatment orthodontic records of 171 patients (fulfilled selection criteria) were obtained and used in

this study. The inclusion criteria included patients with complete pre-treatment records, presence of permanent 1st molars (because Angle's classification depends on 1st molars) and no previous orthodontic treatment.

Case sheets and dental casts were used to collect the data. A quantitative analysis with Angle's classification was used to describe the anteroposterior relationship of the maxillary and mandibular permanent 1st molars during maximum intercuspation.

Results:

In the present study, data from stone dental models of 171 patients seeking orthodontic treatment including 60 males (35%) and 111 females (65%) were analyzed (Figure 1). The participants' age ranged from 6 to 35 years with mean age of 17.44 years.

About half of patients [88 patients (51%)] were belonged to the 12-17 years age group. Whereas, the age groups 18-35 and 6-11 years were consisted of 54 patients (32%) and 29 patients (17%) respectively (Table 1).

According to Angle's classification; the patients' malocclusion statuses were as follow; 56 patients were Class I (33%), 83 patients were class II (48%) and 32 patients were Class III (19%) (Figure 2).

^a Department of Pedodontics, Orthodontics, and Preventive Dentistry. School of Dentistry/ University of Sulaimani. (dranwar77@yahoo.com)

^b Department of Pedodontics, Orthodontics, and Preventive Dentistry. School of Dentistry/ University of Sulaimani.

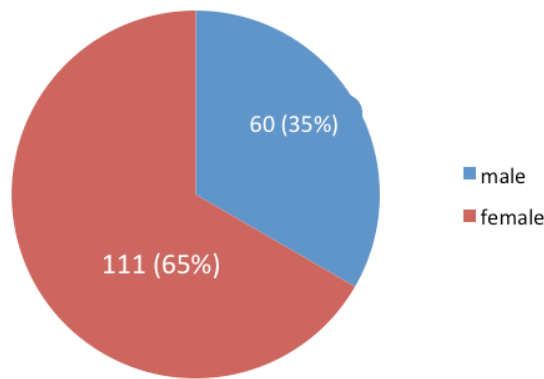


Figure1: Distribution of malocclusion according to gender

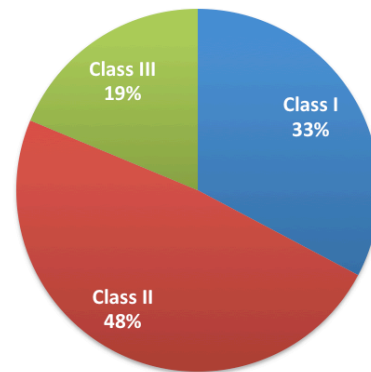


Figure2: Distribution of malocclusion according to class of occlusion

Table 1: Distribution of malocclusion according to age groups

Age	Number	Percentage
6-11	29	17
12-17	88	51
18-35	54	32
Total	171	100

Discussion:

In current study, only those patients seeking orthodontic treatment were included.

The majority of patients looking for orthodontic treatment were females (65%), which is in agreement with the studies carried out by Piya et al (2013)⁽⁴⁾, they showed among 131 patients enrolled in their study, 59.5% were females and 40.5% were males. In Gul-e-Erum and Mubassar Fida (2008)⁽⁵⁾ study, out of 156 patients, 98 (62.8%) were females and Vibhute et al (2013)⁽⁶⁾ studied sample group comprised 98 males (44.5%) and 122 females (55.5%).

According to the present study, Angle’s classification status was as follow; 56 patients were Class I (33%), 83 patients were Class II (48%), and 32 patients were Class III (19%), which is coincided to the study done by Gul-e-Erum and Mubassar Fida (2008)⁽⁵⁾ which showed 18.6% were class I, 70.5%

Table 2 : Angle’s classification status in different studies

Studies	Class I	Class II	Class III
Wada et al (1999) ⁽⁷⁾	89%	7.6%	3.4%
Bhattarai & Shrestha (2008) ⁽⁸⁾	54.5%	37.5%	8%
Sharma (2009) ⁽⁹⁾	72.3%	19.4%	5.9%
Shrestha (2011) ⁽¹⁰⁾	44%	30%	16.1%
Shrestha (2012) ⁽¹¹⁾	59%	25%	16%
Shrestha (2013) ⁽¹²⁾	54%	36.9%	8.4%
Durgesh et al (2012) ⁽³⁾	66.3%	29.2%	4.5%
Piya et al (2013) ⁽⁴⁾	59.5%	26.7%	13.7%

were class II and 10.9% were class III. However, this is not in agreement with the studies shown in Table 2. Patients seeking orthodontic treatment mostly belonged to 12-17 years age group which is similar to what was found by (Piya et al, 2013)⁽⁴⁾.

Further work needs to be done on larger scale such as conducting this study on population bases or all private orthodontic clinics.

Conclusions:

Class II malocclusion created almost half of the patients seeking orthodontic treatment in private clinic in Sulaimani City. Furthermore majority of orthodontic cases were young patients (12-17 age group) with females showing a higher percentage than males.

References:

1. Sidlauskas and K. Lopatiene. The prevalence of malocclusion among 7–15-year-old Lithuanian schoolchildren. *Medicina*. 2009;45:147-52.
2. Thilander, L. Pena, C. Infante, S. S. Parada, and C. De Mayorga. Prevalence of malocclusion and orthodontic treatment need in children and adolescents in Bogota, Colombia. An epidemiological study related to different stages of dental Development. *Eur J Orthod*. 2001;23: 153–67.
3. Durgesh BH, Prakash P, Ramakrishnaiah R, Phulari BS, Al Kheraif AAA. Malocclusion pattern (Angle's) in Mauritian orthodontic patients. *ISRN Dentistry*. 2012; Article ID 210306.
4. Piya A , Shrestha V B , Acharya J , Khanal S and Bhattarai P. Pattern of distribution of malocclusion among patients seeking orthodontic treatment at dental college- Nepal medical college. 2013;13:36-41.
5. Gul-e-Erum, Fida M. Pattern of malocclusion in orthodontic patients: a hospital based study. *J Ayub Med Coll Abbottabad*. 2008;20:43-7.
6. Vibhute Aniket H., Nupura A. Vibhute1, Rajendra Daule. An epidemiological study. *Journal of Orthodontic*. 2013;1:66-9.
7. Wada T, Mizutani S, Tatsuta U, Shrestha RM. The oral health status of the Kathmandu valley, Nepal: Report of the oral health survey 1997-1999. *Osaka University Graduate School of Dentistry. Phcet-Nepal. Unpublished Report; 1999*.
8. Bhattarai P, Shrestha RM. Prevalence of malocclusion among Nepalese orthodontic patients according to Angle's classification. *J Nep Dent Asso*. 2008;9:29-35.
9. Sharma JN. Epidemiology of malocclusion and assessment of orthodontic treatment need for the population of eastern Nepal. *World J Orthod*. 2009; 10:311-6.
10. Shrestha BK, Yadav R, Gyawali R, Gupta S. Prevalence of malocclusion among medical students in Institute of medicine, Nepal; a preliminary report. *Orthod J Nep*. 2011;1:24-7.
11. Shrestha BK, Yadav R, Basel P. Prevalence of malocclusion among high school students in Kathmandu valley. *Orthod J Nep*. 2012;2:4-8.
12. Shrestha S, Shrestha RM. An analysis of malocclusion and occlusal characteristics in Nepalese orthodontic patients. *Orthod J Nep*. 2013;3:19-25.