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Pattern of Attendance of Patients in Orthodontic Clinic of A Nigerian Military Reference Hospital

Adesina BA, Onwochei JJ

Abstract

Background: Poor aesthetics, dysfunction and discomfort are the key reasons for seeking orthodontic treatment across the world. Patients' expectation of orthodontic treatment depends on the perception of their own dentofacial aesthetics and on the continuous feedback they receive from peers to a large extent.

Methods: This was a retrospective study in which data was extrapolated from the orthodontics record book of the dental clinic at a Nigerian Military Reference Hospital.

Results: A hundred and three subjects with a male : female ratio of 1:3, majority (64.1%) of participants are less than 18 years with overall mean age of 18.29±6.7. Ninety five (92.2%) are single while more than four-fifth 85(82.5%) of patients are students. Class 1 malocclusion was the most common 58(56.3%) while 19(18.4%) and 26(25.2%) have class II and class III respectively with no significant association between malocclusion and gender (p=0.0018). The most common treatment plan was fixed upper and lower 77(74.8%) while 11(10.7%) had upper removable appliances.

Conclusion: The most common maloclusion seen was Angle's Class I and most of the patients were treated with comprehensive fixed appliance therapy.

Keywords: Pattern, Attendance, Psychosocial, Malocclusion

Authors' Affiliations
Dental Department, 68 Nigerian Army Reference Hospital. Yaba Lagos

Correspondence:
Dr Adesina BA
Dental Department, 68 Nigerian Army Reference Hospital
Yaba Lagos,
Email: bolarindeadesina@gmail.com
+2348035954652

ORIGINAL ARTICLE

Introduction

Malocclusions constitute a misalignment of dental arches related to changes in the growth and development of the craniofacial system that affects both function and aesthetics and therefore exerts an influence on quality of life and social interactions.[1,2] Poor aesthetics, dysfunction and discomfort are the key reasons for seeking orthodontic treatment across the world as reported by many researchers.[3]

It has been estimated that about 80% of orthodontic patients seek treatment out of aesthetic concerns rather than health and function[4]. To a large extent, patients' expectation of orthodontic treatment depends on the perception of their own dentofacial aesthetics and on the continuous feedback they receive from peers.[5] Gender, age, and income have also been reported as associated factors with regular dental attendance.[6] In recent decades, demand for adult orthodontic treatment has grown rapidly worldwide, with several authors remarking on the increase in adults seeking orthodontic treatment.[7,8] The increased demand for orthodontic treatment by adults has increased the scope of orthodontics and widened the upper age limit for orthodontic intervention. The main reason for this demand is the increasing patient awareness and the desire to improve facial aesthetics.[9]

Orthodontic therapy has been a frequent therapeutic practice with socioeconomic development.[10] Factors such as gender, age, and income are difficult to control. However, factors such as work environment,

lifestyle and oral hygiene behaviour could be controlled. In addition, it has been reported that health behaviours were associated with job characteristics[11]. Therefore, the decision to seek orthodontic treatment appears to be motivated by social norms and culture in their reference group and society in order to enhance facial esthetics, self-confidence and social acceptability[12]. There is a dearth of information on the attendance pattern and the various reasons why patients present at the orthodontic clinic of the Military Reference Hospital, which is what this article seeks to provide.

Materials and Methods

This was a retrospective study in which data was extrapolated from the orthodontics record book of the dental clinic at a Nigerian Military Reference Hospital. The study center is one of the Army reference hospitals with a well-established orthodontic unit in Lagos metropolis. The hospital does not limit its services to military personnel but extends them to civilians alike.

Having obtained ethical approval from the hospital ethical Committee, a proforma was developed to record the retrieved data of all patients who attended the orthodontics clinic within the official working hours of the clinic for the study period. Biodata, diagnosis and treatment plan of the study participants who attended the clinic were extrapolated from the record book by the researchers. Data on age, sex, occupation, diagnosis and treatment plan of the study participants were recorded. All incomplete records were omitted from the study while those with complete records were included. Data was kept confidential by numbering the participants' case record form instead of using names.

Data were entered, cleaned and analyzed using IBM Statistical package for social Science (SPSS IBM Chicago Illinois version 27 software) Categorical variables were presented using frequency and percentage while numerical data e.g. age was presented using mean and standard deviation because it was skewed. Association between variables were assessed using the chi square test. P-value 0.005.

Results

Table 1 shows that majority (64.1%) of participants were less than 18 years with overall mean age of 18.29±6.7 years. A slightly higher proportion 59(57.3%) are female with male female ratio of 1:3. Forty-seven (45.6%) were of the Yoruba tribe while 95(92.2%) were single. More than four-fifth 85(82.5%) of the patients were students. Figure 1 shows that class 1 malocclusion 58(56.3%) was the most prevalent malocclusion in this present study. Class 1 malocclusion was also the most occurring malocclusion in both males 21(47.7%) and females 37(62.7%), as shown in table 3. There was no statistical significant level of association between class of malocclusion and gender, p=0.184. Participants <18 years had class 1 malocclusion 32(48.5%) as the most occurring malocclusion while class II malocclusion 15(22.7) was the least recorded. Class I malocclusion was also the most occurring among participants greater than 18 years, see table 4. The level of association between malocclusion and the age group in the study was not statistically significant, p=0.094. The most common treatment plan was upper and lower fixed orthodontic appliance therapy 77(74.8%) while 11(10.7%) had only upper removable appliance therapy, as shown in table 5.

Table 1: Socio-demographic characteristics of patients

Variable	Frequency (n=103)	Percentage
Age group (Years)		
<18	66	64.1
≥18	37	35.9
Mean±SD	18.29±6.7	
Sex		
Male	44	42.7
Female	59	57.3
Ethnic group		
Yoruba	47	45.6
Igbo	33	32.0
Hausa	6	5.8
Niger-Delta	15	14.6
Others	2	1.9
Marital status		
Single	95	92.2
Married	8	7.8
Occupation		
Student	85	82.5
Civil servant	7	6.8
Business	8	7.8
Teacher	3	2.9

Table 2: Association between age and gender

Age group (Years)	Male n(%)	Female n(%)
<18	35(79.5)	31(52.5)
≥18	9(20.5)	28(47.5)

p=0.005*

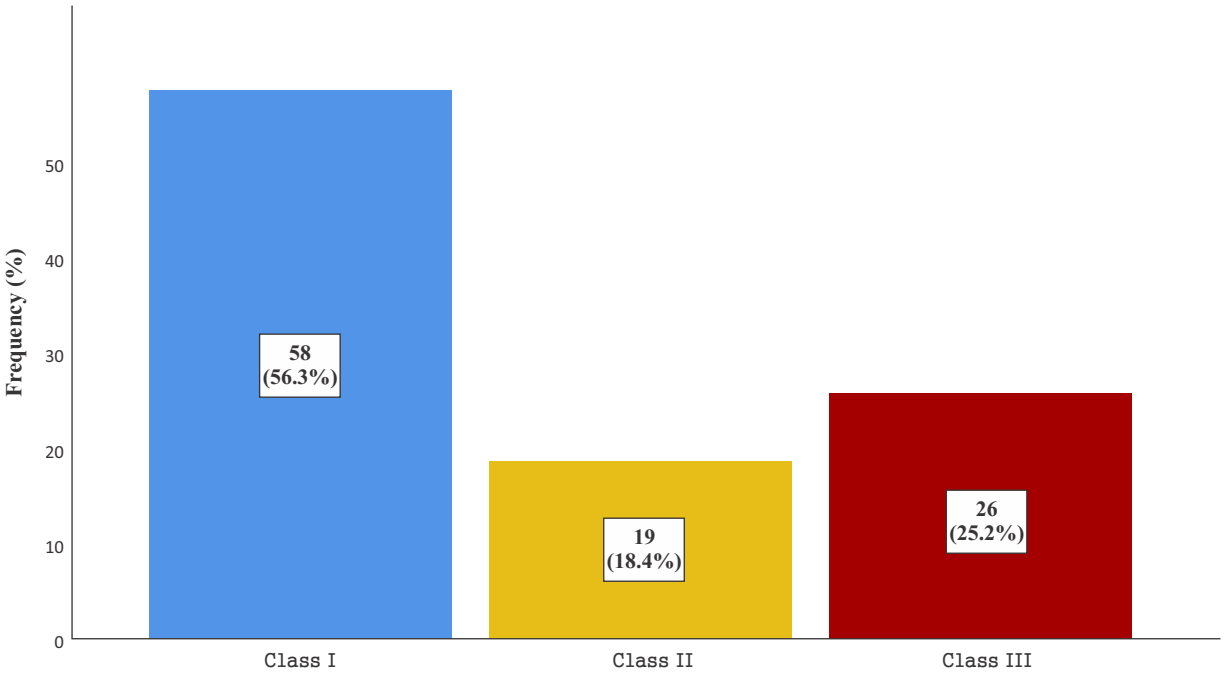

Figure 1: Type of malocclusion

Table 3: Association between malocclusion and gender

Class of malocclusion	Male n(%)	Female n(%)
Class 1	21(47.7)	37(62.7)
Class II	8(18.2)	11(18.6)
Class III	15(34.1)	11(18.6)
p=0.0184		

Table 4: Association between malocclusion and Age group

Class of malocclusion	<18 Years n(%)	≥18 Years n(%)
Class 1	32(48.5)	26(56.3)
Class II	15(22.7)	4(10.8)
Class III	19(28.8)	7(18.9)

Table 5: Treatment plan according to gender among patients

Variable	Male n(%)	Female n(%)	Total
Fixed U&L	30(68.2)	47(79.7)	77(74.8)
Upper removable appliances	6(13.6)	5(8.3)	11(10.7)
Functional twin block	4(9.1)	3(5.1)	7(6.8)
Interceptive orthodontics	1(2.3)	1(1.7)	2(1.9)
Lip bumper	0(0.0)	1(1.7)	1(1.0)
Orthognathic surgery	0(0.0)	1(1.7)	1(1.0)
Palatal expander	1(2.3)	0(0.0)	1(1.0)
Tongue rake	0(0.0)	1(1.7)	1(1.0)
Arch expander in mandible	1(2.3)	0(0.0)	1(1.0)
Fixed upper only	1(2.3)	0(0.0)	1(1.0)

KEY: U=Upper; L= Lower

Discussion

In this study, the majority (64.1%) of participants were less than 18 years with an overall mean age of 18.29±6.7 years. This is in conformity with previous studies and may be attributed to the fact that younger age groups are more conscious of their appearance [13,14,15]. It has been reported that adolescent period between the ages of 11–14 years when children undergo major physical changes, their facial and dental esthetics play a substantial role in self-perceived appearance [15.] The lack of a beautiful smile and good facial look often result in low self-esteem which can influence social interaction. Many studies concluded that people in the age group between 11 years and 18 years showed a significant association between psychological impact and malocclusion[15,16,17]. Meanwhile, almost an equal number of females were presented before and after 18 years old while the bulk of male were less than 18 years. This association is significant (p=0.005)

It was also discovered that a slightly higher proportion 59(57.3%) of patients attending orthodontic clinics during the study period were female with male-female ratio of 1:3. This is consistent with prior studies which showed that girls were more frequently (and more intensely) dissatisfied with their dental appearance than boys. However, girls tend to rank their need for orthodontic treatment higher than boys and female students aged 16 years and above recorded higher psychological and social impact compared to male students in terms of dental aesthetics [14,17,18].

Greater percentage of the participants in this study were single 95(92,2%) and students 85(82.5%). Improving the appearance especially for females at this period is critical for search for future partners and for the job market.

The commonest type of malocclusion was Angle's class 1 seen in 58(56.3%) while Class 3 and Class 2 accounted for 26(25.2%) and 19(18.4%) respectively. This differed from a similar study at a teaching hospital within the same metropolitan area where though Angle class 1 was the commonest reported, class 2 was found to be more than class 3.[19] Meanwhile, there was no significant association between malocclusion and gender (p=0.184).

Majority 77(74.8%) of the subjects in the study were treated with fixed appliances. This shows that fixed appliances are in high demand compared with simple removable and functional orthodontic appliances as supported by Poornima et al[20]. This could be attributed to increasing orthodontic awareness and increasing number of orthodontists delivering good services in the country.

Conclusion

This study revealed that female patients sought orthodontic treatment the most. Most of the students were single and within the adolescent age group. The most common malocclusion seen was Angles Class I malocclusion, with most of the patients being female adolescents and comprehensive fixed appliance therapy was the most common treatment provided.

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