

# A Cross-sectional Assessment of Knowledge, Social Perceptions and Willingness to Undergo Orthodontic Treatment amongst Adults in Enugu, Nigeria.

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## Abstract

**Background:** Our clinical observation at the Orthodontic clinic showed that adult demand for orthodontic treatment has not grown significantly over the years.

**Methods:** One hundred and ninety seven adults were evaluated in this cross-sectional questionnaire based study.

**Results:** There was a significant female preponderance (75.6%). The mean age of the subjects of the study was 23.86 years. About one-half (49.2%) of the subjects indicated knowledge of orthodontic treatment, with the majority defining it as correction of irregularly arranged teeth and 13.4% defining it as the correction of gum problems. A greater percentage of respondents (88.3%) had never had orthodontic treatment in the past. Of the 23 respondents who reported having had orthodontic treatment in the past, the mean age of treatment was 19.35 years, SD of 4.88. Most of the respondents (77.2%) indicated that they did not believe that they required orthodontic treatment. Amongst the 22.8% that believed they needed orthodontic treatment, the majority were females. The major reasons for orthodontic treatment in these cases were improvement of their smiles, and of badly arranged irregular teeth. Others included the correction of pushed out teeth and speech impediments. A lack of orthodontic awareness was expressed by 30.5% of the respondents, while the factor of cost implication accounted for 17.8% of the reasons for not going for treatment hitherto.

**Conclusion:** About one-half of this study population had knowledge of orthodontics and majority of the respondents reported that they did not require orthodontic treatment.

**Key words:** Adult Orthodontics, Orthodontic awareness, Orthodontic treatment.

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## Introduction

Adult orthodontics is defined as “The branch of orthodontics concerned with striking a

**A** balance between achieving optimal proximal and occlusal contact of the teeth, acceptable dentofacial aesthetics, normal function and reasonable stability”<sup>1</sup>.

Adult orthodontics was not originally given a chance as a branch of orthodontics because

historically during the period of the total banding technique, aesthetic concerns was a major challenge for adults<sup>2,3</sup>

In later years, the acid etch technique became useful for bonding orthodontic brackets, there was still a challenge with the treatment of adult patients because many had veneers and crowns of various materials, which at that time presented a challenge with bracket bonding.<sup>3</sup>

There was therefore, an originally skewed nature of the patients originally designed to benefit from orthodontic treatment. Most units offering orthodontic treatments were put into the Child Dental Health department, as is commonly the case in countries like Nigeria.

The situation is further worsened by a lack of awareness of orthodontic treatment among the populace. Today, however, adult orthodontics is becoming a larger proportion of many dental practices<sup>4</sup>

With increasing awareness via access to the internet, and local association awareness programmes like the Nigerian Association of Orthodontists, Changing lifestyle, increased aesthetic demands and an improved multidisciplinary approach that allows for better

management of the more complicated adult patient population with associated dental/medical issues<sup>4</sup>

Researchers, have, therefore, reported a rising influx in the number of adults seeking orthodontic treatment in the last 20 years<sup>5</sup>. These adults, fall into two groups of younger adults (under 35years) who desired, but could not receive orthodontic treatment during adolescent period and an older group, typically in their 40's or 50's who have other dental problems and need orthodontics as part of larger treatment plan.<sup>6</sup>

Adult orthodontic therapy should be encouraged because of its ability to improve function, occlusion, aesthetics as well as the psychological aspects<sup>4</sup>.

Thus the aim of the present study was, therefore, to assess the knowledge, social perceptions and the willingness of adults to undergo orthodontic treatment.

## Materials and Methods

This cross sectional questionnaire based survey was conducted among 197 adults who were randomly selected from tertiary institutions in Enugu metropolis after obtaining informed consent.

A questionnaire form with 12 close ended questions adapted from a previous study<sup>7</sup>, was used for this study. The responses required simple yes or no choices, or multiple tick boxes. The questionnaires were explained to each respondent before administration. Two trained calibrated examiners administered the questionnaire forms. The collected data was subjected to statistical analysis using the Epi info.

## Results

The results are based on responses from 197 adults. There was a significant female preponderance (75.6%). The mean age of the respondents was 23.86 years (Table I).

Table I: Demographic Characteristics of Respondent

	No.	(%)	Variables
<b>Sex Male</b>			
Female	48	(24.4)	
<b>Age(Years)</b>	149	(75.6)	
16-20			
21-25	36	(18.3)	23.8680(3.36592)
26-30	123	(62.4)	
	29	(4.9)	
31-35	9	(4.6)	

Table 2: Knowledge of Orthodontic Treatment

Variables	No. (%)
Whether respondents knew about orthodontic treatment	
YES	97(49.2)
NO	100(50.8)
Meaning of Orthodontic Treatment	
Correction of Irregularly arranged teeth	81(83.5)
Replacement of missing teeth	3(3.1)
Gum Problems	13(13.4)

About one-half of the respondents (49.2%) had knowledge of orthodontic treatment, majority defining it as correction of irregularly arranged teeth while 13.4% defined it as correction of gum problems (Table II). A greater percentage of respondents (88.3%) had never had orthodontic treatment in the past. Only 23 respondents that reported having had orthodontic treatment in the past had it at the mean age of 19.35 years, SD of 4.88. (Table III).

The major reason for their believing that they needed orthodontic treatment was to improve their smile and badly arranged and irregular teeth. Others

Table III: Utilization of Orthodontic Services

Variables	No. (%)
Whether respondent had orthodontic treatment	
YES	23(11.7)
NO	74(88.3)
Age at which respondent had Orthodontictreatment	19.35(4.88)

included correction of "pushed out teeth" and difficulty while speaking.

Poor awareness was expressed by 30.5% of the respondents and cost treatment factor accounted for 17.8% of the reasons for not going for treatment so far. Most of the respondents (77.2%) did not believe that they required orthodontic treatment. Amongst the 22.8% that believed they needed orthodontic treatment, majority were females. (Table IV)

The major reason for their believing that they needed orthodontic treatment was to improve their smile and badly arranged and irregular teeth. Others included correction of pushed out teeth and difficulty while speaking.

Most of the respondents (77.2%) did not believe

that they required orthodontic treatment. Amongst the 22.8% that believed they needed orthodontic treatment, majority were females.

The major reason for their believing that they needed orthodontic treatment was to correct their smile and badly arranged and irregular teeth. Others included correction of pushed out teeth and difficulty while speaking. (Table V)

Poor awareness was expressed by 30.5% of the respondents and cost factor accounted for 17.8% of the reasons for not going for treatment so far.

The figure 3 shows the number of respondent and their percentage that require orthodontic treatment. Correction of smile and irregular/badly arranged teeth tops their reason. Similarly, only two respondent mentioned difficulty while speaking as their reason for requiring orthodontic.

Table IV: Whether Respondent Requires Orthodontic Treatment

Variables	No. (%)
<b>Whether respondent thinks he/she requires Orthodontic treatment</b>	
YES	45(22.8)
NO	152(77.2)
<b>Number of respondents that said YES</b>	
Male	4(8.9)
Female	41(91.1)
<b>Number of respondents that said NO</b>	
Male	85(55.9)
Female	67(44.1)
<b>Reasons why respondents required Orthodontic treatment</b>	
Irregular/badly arranged teeth	16(8.1)
“Pushed Out Teeth”	11(5.6)
Correct smile	18(9.1)
Difficulty while speaking	2(1.0)
Pain/clicking around the ear	8(4.1)
<b>Reasons for not going for treatment so far</b>	
Awareness	60(30.5)
Social acceptance	15(7.6)
Difficulty to manage time for visits	8(4.1)
Costfactor	35(17.8)

Table V: Reasons for Orthodontic Treatment Characterized by Gender

Variable	Female No.(%)	Male No.(%)	No Gender No.(%)
Irregular/badly arranged teeth	2(12.5)	7(43.75)	7(43.75)
Forwardly placed teeth	6(54.45)	2(18.18)	3(27.27)
To correct your smile	10(55.56)	4(22.22)	4(22.22)
Difficulty while Speaking	2(100)	-	-
Pain around ears	6(75.0)	-	2(25.0)
Awareness	31(51.67)	14(23.33)	15(25.0)
Social Acceptance	7(46.67)	4(26.67)	4(26.67)
Difficulty to manage time for visits	2(25.0)	3(37.5)	3(37.5)
Cost factor	28(80.0)	5(14.29)	2(5.71)

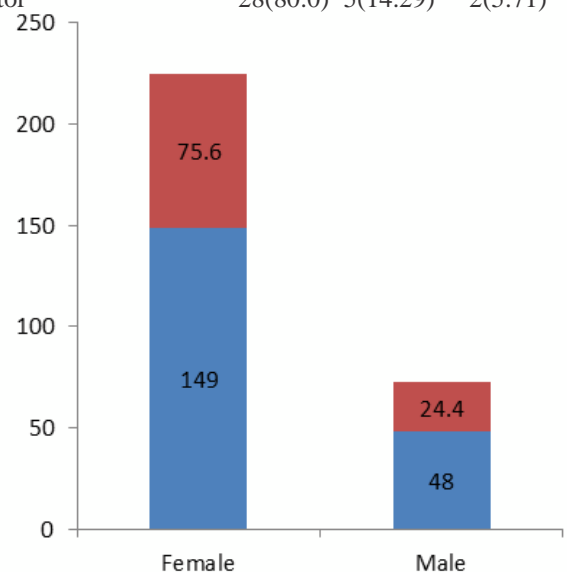


Figure 1: Percentage/Frequency Gender Distribution of Respondents

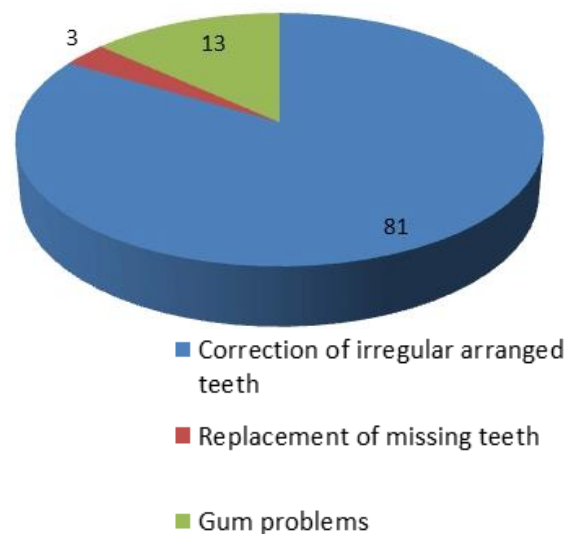
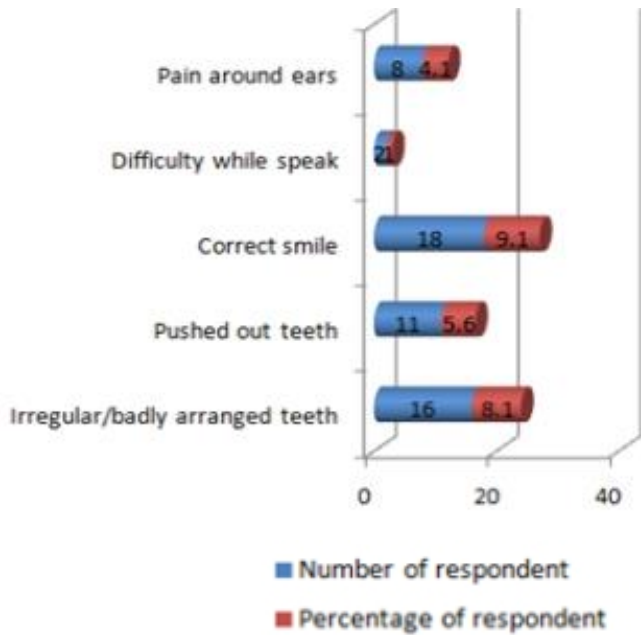


Figure 2: Meaning of Orthodontic Treatment

### Discussion

Nigerian adults are beginning to accept orthodontic treatment more than in the past. Orthodontic treatment was largely viewed as a childhood dental practice but great proportions of adults are now embracing orthodontic treatment. This increase may be as a result of greater awareness of the orthodontic practice. As many as one-half of our respondents were aware of orthodontic treatment, this compares well with other studies worldwide.<sup>7</sup>

In a study conducted at the Lagos University Teaching Hospital, Nigeria, the mean age of patients seeking treatment was 15.2years<sup>8</sup>, which is comparable to the finding from another study conducted in Enugu<sup>9</sup>. Only 23 of the respondents had a previous orthodontic treatment also at an adult age( mean age of 19.35 years). The mean age of our study population was 23.86 years, which is attributable to the fact that the study was tertiary institution based. This compares well with other studies. Adult patients seeking orthodontic treatment have been reported to account for 20 to 37% of the total patients<sup>8,10</sup>.



This figure 3 shows the number of respondent and their percentage that require orthodontic treatment

Figure 3: Reasons Why Respondent Required Orthodontic Treatment

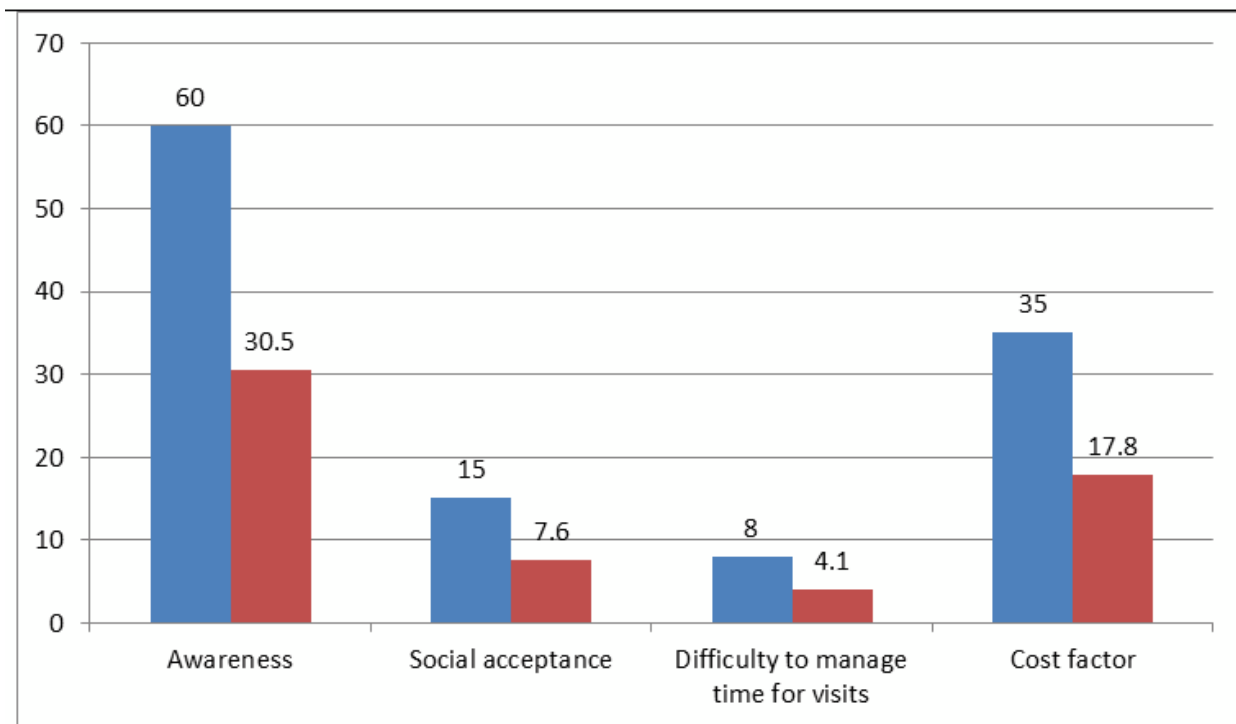


Figure 4: Reasons for Not Going for Treatment So Far

The female preponderance among those that had need for orthodontic treatment in our study is in agreement with other studies,<sup>11</sup> this is understandable since females are generally more interested in aesthetics and show greater concern about their appearance.

Similar to other studies, the reasons for not availing orthodontic treatment in the past was mainly due to poor awareness and cost<sup>12</sup>. However some studies reported time as an important factor and social acceptance<sup>7</sup>.

The issue of cost is a major factor affecting the demand for orthodontic treatment. Majority of the populace may be aware that they need orthodontic treatment but cannot afford the treatment.

The average cost for orthodontic treatment in Nigeria is not affordable for the ordinary or even the middle class. orthodontic treatment has become mainly for the elite and upper class and has even become a social symbol of having 'arrived' especially among teenagers.<sup>13,14</sup>

The increasing emphasis on facial beauty, being promoted by social media has further affected young adult's zeal for improved facial aesthetics and therefore the need to seek for orthodontic treatment to correct their smile. The major reason why respondents of this study required orthodontic treatment was to correct their smile. This agrees with other studies.<sup>7</sup>

## Conclusion

About one-half of this study population had knowledge of orthodontics, a majority of the respondents reported that they did not require orthodontic treatment.

## Contributors

Folaranmi N was responsible for concept, design, data acquisition, drafting of article and data analysis. Ndu A was responsible for concept, design and data analysis. Akaji E was responsible for concept and design. Okeke A was responsible for drafting of article and literature review.

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Self

## Conflict of interests

Nil

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