



## Attitude of undergraduate clinical dental students towards orthodontics and orthodontists in a selected Nigerian University

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### Abstract

**Objective:** This study was carried out to determine the attitude of undergraduate dental students towards Orthodontics in a selected Nigerian University.

**Method:** Structured and self-administered questionnaires were distributed to all clinical year dental students in the 4<sup>th</sup> and 6<sup>th</sup> year. The questionnaire examined their attitude towards Orthodontics, attitude towards Orthodontists and influence of the media on their attitude.

**Result:** Students attitude towards Orthodontics as a specialty of dentistry and towards orthodontists as professionals were positive (mean score=3.90/5, 95% CI 3.76-3.96). sixty seven percent and 15.7% of the students had a strongly positive attitude towards the specialty and the professionals respectively. There was no significant difference in attitude between the 6<sup>th</sup> year students and those in their 4<sup>th</sup> year ( $p>0.05$ ). Female students viewed orthodontics more positively than male students.

There was however a significant difference in intended career choice ( $p<0.05$ ). Nine (15.7%) students would like to specialize in Orthodontics while 29 (50.87%) students would like to specialize in Oral and maxillo-facial surgery. The media did not have any influence on attitude of the students (mean score 1.5/5.95% CI (1.34-1.60)).

**Conclusion:** Attitude of undergraduate clinical dental students towards Orthodontics and orthodontists is positive. However this did not influence career choice of the students in Orthodontics.

**Key words:** Attitude, dental students, Orthodontics

### Introduction

There has been an increase awareness and demand in orthodontic treatment in Nigeria in the last decade. However there are very few orthodontists in Nigeria with a total of 33 orthodontists to a population of about 140 million<sup>(1)</sup>. The ratio of orthodontists to the population is grossly inadequate and may result in inaccessibility of quality orthodontic care. Furthermore, Orthodontic services are available only in urban cities thereby making it difficult for rural dwellers to access such services. One way of making orthodontic services readily available to the population is by the training of more specialists in the field. The choice of a career in orthodontics may be influenced by the attitude of the individual because attitude towards certain specialties during college life have been known to influence career choice<sup>(2)</sup>. Attitude of medical students towards some specialties have been reported and career choice was found to be influenced by the positive attitude of the students<sup>(3,4)</sup>. Furthermore for about a period of about 10 years (1990-2000) years now there was a dearth of qualified orthodontists in the selected University. Orthodontic postings then consisted mainly of Block postings with little or no clinical exposure. The Dental school had to rely on services of visiting Lecturers, who were only able to arrange block postings for a period of six weeks throughout the clinical years<sup>(5)</sup>.

In the year 2001 teaching of orthodontics in the selected university, however took a new turn with the employment of qualified lecturers in orthodontics. Presently, there are

two permanent staff lecturers in orthodontics.

Lectures in orthodontics begins in the 4<sup>th</sup> year of study which is the 1<sup>st</sup> clinical year in dentistry and is completed by the 6<sup>th</sup> year of study. The students receive 2 hours of lectures and about 8 hours of clinical and laboratory exposure weekly. Therefore with the current orthodontic programme in the university it may be necessary to determine whether the attitude of undergraduate dental students towards Orthodontics has changed.

To the knowledge of this author, no study has been carried out in Nigeria to determine attitude of dental students towards Orthodontics as a specialty. The aim of this study is to determine the attitude of clinical dental students in a selected Nigerian university towards Orthodontics and orthodontists.

### Materials and Method

Undergraduate clinical dental students of the University of Ibadan were the participants in this study. All dental students in their 4<sup>th</sup> and 6<sup>th</sup> year of study were enrolled. A questionnaire was designed and structured with questions, to examine students' attitude towards orthodontics using 4 main constructs namely;

1) Students' attitude towards Orthodontics as a specialty, i.e. the perceived job satisfaction (consisting of 2 questions) and nature of doctor to patient relationship (consisting of 3 questions). 2) Students' attitude towards the orthodontist compared with other dental specialists, students' perception of personality, intelligence and status of the orthodontist (consisting of 3 questions). 3) Factors

influencing students attitude towards Orthodontics including, the media, (television, radio, newspaper and magazine) (1 question) and students' direct personal experience with orthodontists (1 question).

4) Extent of Intention to follow a career in orthodontics, oral and maxillo facial surgery, Restorative dentistry.

In addition relevant information about age, sex and year of study were also included in the questionnaire design. The internal consistency of the questionnaire was determined (Cronbach's alpha 0.75) and was found to be reliable.

The questionnaires were self administered. Participants were asked to respond to the questions by ticking the most appropriate answer. The options given were rated on a 5 point scale from Strongly Disagree to Strongly agree.

There were 10 questions in all, the response to each question was then scored on a likert pattern of 1-5 points, with Strongly Disagree as 1 and 5 as Strongly agree. The overall attitude was determined by adding all the scores of the responses together to give a total. Thereafter the mean was derived by dividing the total score with the number of questions. The mean was then used as a yardstick to determine attitude. Those who scored above the mean were regarded as being positive in their attitude towards Orthodontics and Orthodontists, while those who scored below the mean were regarded as being negative in their attitude. Attitude towards individual constructs was also determined by using the attitudinal mean. This was determined by adding together the scores of responses in the construct to arrive at a total and dividing it by the number of questions in that construct.

The data was entered into SPSS for windows 10.0 (SPSS Inc. Chicago, IL, USA) statistical package. Frequencies were generated. Mann-whitey tests and Independent t-test was used to compare the intended career choice of 4<sup>th</sup> and 6<sup>th</sup> year students and to compare attitude between genders. The level of significance was set at  $p < 0.05$ .

## Result

All undergraduate clinical dental students in the 4<sup>th</sup> and 6<sup>th</sup> years participated in the study. There were of 57 students, and a response rate of 100%. Twenty (35.1%) of the students were in their 4<sup>th</sup> year of study, while 37(64.9%) were in their final year of study (**Table 1**). Twenty three (40.4%) of the students were males while 34 (59.6%) were females. The age range was from 22 years to 32 years with a mean age of  $24.6 \pm 2.01$  years. The overall attitude towards orthodontics and orthodontists was positive (mean score 22.8).

Attitude towards Orthodontics as a specialty was positive (average mean score 3.72, 95%CI 3.64-3.81) (**Table 2**).

Students attitude towards orthodontists as professionals was also positive (average mean score=3.90, 95% CI 3.86-3.94). The influence of the media on attitude towards Orthodontics was negative (mean score 1.5, 95%CI 1.34-1.60) (**Table 2**).

There was no significant difference in attitude between the final year students and those in their 4<sup>th</sup> year ( $p > 0.05$ ). Female students viewed orthodontics more positively than male students. This was however not significant ( $p > 0.05$ ). There was however a significant difference in intended career choice ( $p < 0.05$ ), 4<sup>th</sup> year student preferred to specialize in Restorative dentistry and Oral and maxillo-facial surgery, while final year student preferred to specialize in orthodontics and oral and maxillofacial surgery.

**Table 1:** Age and sex distribution of respondents

Age (years)	Males	Females	Total
20-24	6	10	16(28.1%)
25-29	12	19	31(54.4%)
30-34	5	5	10(17.5%)
<b>Total</b>	23	34	57(100%)

Mean Age  $24.6 \pm 2.01$

**Table 2:** Difference in attitude between level of study and gender

Variables	4 <sup>th</sup> Year (95%CI)	6 <sup>th</sup> Year (95%CI)	Male	Female
Attitude toward Orthodontists	3.55(3.50-3.60)	3.69(3.65-3.87)	3.55(3.50-3.61)	3.69(3.65-3.73)
Attitude toward Orthodontists as a specialty	3.76(3.71-3.81)	4.03(3.98-4.08)	3.78(3.72-3.84)	3.99(3.94-4.05)
Influence of the media on attitude towards orthodontics	1.34(1.24-1.43)	1.46(1.37-1.51)	1.56(1.49-1.60)	1.49(1.48-1.5)

## Discussion

Determination of dental student's attitude toward Orthodontics is important as this may influence a career choice in Orthodontics. Students attitude towards taught courses have been known to affect career choice<sup>(6,7)</sup>. The participants in this study were 4<sup>th</sup> and 6<sup>th</sup> year undergraduate students in their clinical year. They were selected because they were at the level when Orthodontics is taught both in the lecture room and at the chair side in the clinic. Fifth year students were not included in the study, because they were on clinical posting in medicine and surgery.

The number of students who participated in this study represented about 50% of the total population of dental students in the university therefore the results can be generalized for all dental students within the university.

The internal consistency of the item scales that measured attitude towards orthodontics and orthodontists was satisfactory (Cronbach's alpha correlation =0.75) and is a key factor, that can help address certain enquiries that may be related to attitude towards orthodontics.

In this study, the students overall attitude towards Orthodontics and Orthodontists were positive and was predicted by direct personal experience with the specialty and the professionals. The factor believed to influence the students attitude mostly was their personal experience with Orthodontists and this was predicted by the students perception of the Orthodontists personality, intelligence and status. Attitude of orthodontic patients has also been directly correlated with the personality of orthodontists<sup>(8,9)</sup>. The personality of orthodontists may then be said to have a major influence on attitude towards Orthodontics in general.

Results from this study indicated that there was a significant difference in intended career choice ( $p < 0.05$ );



4<sup>th</sup> year student preferred to specialize in Restorative dentistry and Oral and maxillo-facial surgery, while final year student preferred to specialize in orthodontics and oral and maxillofacial surgery. Though the overall attitude towards orthodontics was positive it may be that there are other factors that can influence career choice. The more positive attitude of the final year students towards orthodontics may be as a result of the increased contact the students had with Orthodontics and specialists in the field. The presence of a well equipped dental clinic with availability of dental materials is also likely to influence students career choice. While high patient attendance at clinics may predict a positive future career in some specialties and is likely to influence career choice.

Furthermore attitude towards taught courses have been known to change substantially between the pre-registration year and the final year<sup>(10)</sup>. Therefore eventual career choice is not determined by attitude. It may however be influenced by some other psychosocial factors. Female students had a more positive attitude towards orthodontics than male students though there was no statistically significant gender difference. This result is in agreement with other studies where females in general have been known to have a more positive attitude towards orthodontic treatment and to view facial aesthetics more importantly than males<sup>(11)</sup>.

Attitude towards Orthodontics was not influenced by the media. This may be as a result of the low awareness of dental conditions in our country. Medical conditions like Acquired Immune Deficiency syndrome (AIDS) and malaria are given more publicity by the media, rather than oral and dental conditions.

### Conclusion

In conclusion undergraduate dental students in one of the Nigerian universities have a positive attitude towards Orthodontics, which is predicted by their personal experience in orthodontics and their contact with Orthodontists.

However their attitude did not predict their eventual career choice. Therefore other factors in addition to attitude may be responsible for career choice.

Further studies are being suggested to compare attitude of pre-clinical dental students with that of clinical dental students towards Orthodontics.

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