



Awareness of malocclusion and attitude towards orthodontic treatment among trainee dental surgery technicians in Nigeria

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Abstract

Objective: Malocclusion affects aesthetics, the physical, psychological and social life of a person. The aim of this study was to evaluate the awareness of malocclusion and attitude towards orthodontic treatment among trainee dental surgery technicians in Nigeria.

Materials and Methods: This was a descriptive cross-sectional study carried out among 68 final year (sixty-eight) trainee dental surgery technicians in Nigeria. The research instrument was a self-administered close ended questionnaire. Data was analyzed using SPSS version 20. P value ($P < 0.05$) was regarded as significant.

Results: Sixty-one (89.7%) of the respondents were females, while 7 (10.3%) were males. Fifty-seven (83.8%) have heard of the term malalignment of teeth, 53 (77.9%) of the students think malalignment is due to external habits. 61 (89.7%) are aware that few teeth may have to be removed for proper positioning of irregular teeth and 51 (75.0%) were aware that the irregular teeth can be corrected even after 40 years of age. More females were aware of malocclusion and had positive attitude towards orthodontic procedures when compared to the males, but the difference was not statistically significant ($P > 0.05$).

Conclusion: Majority of the respondents in this study were aware of the term malalignment and had positive attitude towards orthodontic treatment. More females constituted the study population.

Keywords: Malocclusion, Orthodontic treatment, attitude, trainee dental surgery technicians.

Introduction

Occlusion is a manner in which the upper and lower teeth intercusate between each other in all mandibular positions and movements. It is as a result of neuromuscular control of the components of the masticatory systems, namely: teeth, periodontal structures, maxilla, and mandibular, temporomandibular joints and their associated muscles and ligaments.¹ An individual's occlusal status is generally described by two major characteristics; intra-arch relationship and inter-arch relationship.² A physiologic occlusion differs from a pathological occlusion in which the components function efficiently and without pain, and remains in a good state of health.³ It can be either normal occlusion or malocclusion. The terminology of occlusion encompassed all the occlusal variations ranged as ideal occlusion, normal occlusion and malocclusion.⁴

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The World Health Organization had included malocclusion under the heading of Handicapping Dentofacial Anomaly, defined as anomaly which causes disfigurement or which impedes function, and requiring treatment, "if the disfigurement or functional defect was likely to be an obstacle to the patient's physical or emotional well-being"

(WHO).⁵ Several studies on the occlusal traits in different populations have been reported in the orthodontic literature.⁶⁻⁸

There have been several reported studies on oral health status and needs among different Nigerian populations with some focused on the orthodontic status.⁹⁻¹³ Malocclusion affects the physical, psychological and social life of a person. It is very important to the orthodontic treatment which mainly depends on knowledge and awareness of the person towards orthodontic treatment.^{14,15}

A study was carried out in Karnataka, India.¹⁶ The survey was carried out in selected schools in all district headquarters. Children in the age group 10-16 years were included in the study and constituted the study population. The sample size was 9505. This survey was formulated to investigate the awareness of children towards orthodontic treatment among the children. Results from the survey showed that the school children exhibited a moderate level of awareness about Dentist and Orthodontist and knowledge about irregular, the school children had less awareness about orthodontic treatment, both boys and girls showed same level of awareness regarding orthodontic treatment. In a study¹⁷ carried out among 120 randomly selected school children, 66 boys (55%) and 54 girls (45%) aged 10-12 years old in Lagos State, South West Nigeria. The aim of the study was to determine attitudes to malocclusion and orthodontic treatment need among the school children. Results showed that most children (61.7%), were satisfied with their dental appearance with no significant sex difference, while the 10 year old children expressed significantly higher level of dissatisfaction with their teeth arrangement ($P < 0.05$). This study revealed a moderate concern and knowledge of malocclusion among sample of Nigerian children evaluated with a need for orthodontic treatment in less than one third.¹⁷

The purpose of this study was to evaluate the Awareness of malocclusion and attitude towards orthodontic treatment among final year trainee Dental Surgery Technicians in Nigeria.

Materials and Methods

This was a cross-sectional study carried out between March and May 2023. Trainee dental surgery technicians undergoing their final clinical posting at

the Dental Centre of the University of Benin Teaching Hospital, Benin City, Nigeria constituted the study population. The students were from the Institute of Health Technology, University of Benin Teaching Hospital, Benin City, South South of Nigeria, School of Health Akure, South West Nigeria and Pogil School of health Ogun State, South West Nigeria. Total number of participants were 68, 29 from Institute of Health Technology, University of Benin Teaching Hospital, 26 from School of Health, Akure and 13 from Pogil School of Health, Abeokuta, Ogun State. The age group of the participants was between 18 – 38. The mean age was 22 ± 3.5 years. Informed consent was obtained from all study participants. The research instrument was a close ended self-administered questionnaire made up of 14 items. There were questions on biodata (sex, age and school of origin). The other questions were on awareness of malocclusion and attitude of the participants towards orthodontic treatment. The questionnaire was pretested in a pilot study among 15 (fifteen) trainee dental technicians 2 weeks before commencement of study. Inclusion criteria included consent, and only final year students from the schools listed earlier. Exclusion criteria included lack of consent and non-final year students. There was 100 % response from the students in completing the questionnaires.

Data entry and analysis was carried out using Statistical Package for the Social Sciences (SPSS) version 20. Frequency distribution was generated for all variables, measures of central tendency and dispersion was generated for numerical variables. P values ($P < 0.05$) was regarded as significant. This research was approved by the Research Ethics Committee of the University of Benin Teaching Hospital. Participants in this study experienced no direct benefit and no compensation was paid to them.

Results

A total of 68 trainees participated in the study. Their minimum age was 18 years, maximum age was 38 years, and the mean age was 22 ± 3.5 years.

Table 1: Gender distribution of study population

Gender	Frequency (n)	Percent (%)
Male	7	10.3
Female	61	89.7
Total	68	100.0

Table 2: Awareness of Malocclusion

Awareness of Malocclusion	Frequency (n)	Percent (%)
Yes	57	83.7
No	11	16.2
Total	68	100.0

Table 3: Relationship between awareness of malocclusion and gender

Awareness of malocclusion	Female n (%)	Male n (%)	Total
Yes	50 (87.7)	7 (12.3)	57 (83.8)
No	11 (100.0)	0 (0.0)	11 (16.2)
Total	61 (89.7)	7 (10.3)	68 (100.0)

Chi square: 0.588: P>0.05

Table 4: Relationship between attitude towards orthodontic treatment and gender

Willigness to undergo Orthodontic treatment	Female n (%)	Male n (%)	Total (%)
Yes	35 (97.2)	1 (2.8)	36 (52.9)
No	26 (81.3)	6 (18.7)	32 (47.1)
Total	61 (89.7)	7 (10.3)	68 (100.0)

Chi square: 0.05; P =0.05

Table 1 showed the gender distribution of the study population. There were 7 (10.3%) males and 61 (89.7%) females.

Table 2 showed that majority of the respondents, 57 (83.8%) were aware of the term malalignment, 11 (16.2%) were not aware of the term malalignment.

Table 3 showed that more females 50 (87.7%) were aware of the term malalignment, while 7 (12.3%) were aware of the condition. The difference was not statistically significant (P>0.05).

Table 4 showed the relationship between attitude towards orthodontic treatment and gender. More females 35 (97.2%) were willing to undergo orthodontic treatment while only 1 (2.8%) male was willing to undergo orthodontic treatment. The difference was not statistically significant (P=0.05). Majority of the respondents 57 (83.8%) believe that malalignment can occur due to external habits like thumb sucking, tongue thrusting and lip biting. 11 (16.2%) believe that the habits listed above will not result in malalignment of teeth.

Fifty-five (80.9%) of the study population believe that improper alignment of teeth would affect chewing food, while 13 (19.1%) believe that improper alignment of teeth would not affect

chewing food. 45 (66.2%) of the respondents did not believe that improper alignment of teeth would result in breathing problems (mouth breathing habit). 23 (33.8%) of the respondents believe that improper alignment of teeth would result in mouth breathing problems.

Majority of the respondents 65 (95.6%) believe that taking orthodontic treatment would improve their facial appearance while 3 (4.4%) did not believe that taking orthodontic treatment would improve their facial appearance. 63 (92.6%) of the study population have not undergone any previous orthodontic treatment, while 5 (7.4%) have had previous orthodontic treatment.

Sixty-one (89.7%) were aware that few teeth may have to be removed for proper positioning of irregular teeth, while 7 (10.3%) were not aware. 51 (75.0%) believe that orthodontic treatment is a stressful procedure while 17 (25.0%) believe that it is not stressful. 63 (92.6%) think that orthodontic procedures are very expensive, while 5 (7.4%) believe that it is not expensive. 51 (75.0%) believe that mal-aligned teeth can be corrected even after 40 years of age, while 17 (25.0%) believe that it is not possible.

Discussion

Malocclusion affects aesthetics, the physical, psychological and social life of a person. It is very important to take the orthodontic treatment, which mainly depends on knowledge and awareness of the person towards orthodontic treatment.^{14,15}

Majority of the respondents in this study were females, 61 (89.7%), which was similar to findings in a previous study,⁴ this finding differed from a previous study which recorded more males.¹⁷ This study showed that majority of the study population were aware of the concept of malalignment which was a similar finding in previous studies,^{4,14} but differed from previous studies where majority of the respondents exhibited a moderate level of awareness of malocclusion and orthodontic treatment.¹⁶⁻¹⁸

In this study, majority of the respondents agree that malocclusion is due to external habits (thumb sucking, tongue thrusting and lip biting), which was a similar finding in a previous study.⁴ In other studies, majority of the respondents did not know that external habits could result in malocclusion.^{16,17}

This study revealed that majority of the respondents showed a positive behavior towards orthodontic treatment which was similar to findings in a previous study^{4,14} and differed from other studies, where the attitude to orthodontic treatment was quite minimal.^{16,17}

Majority of the respondents in this study were aware that few teeth may have to be removed for proper positioning of irregular teeth and they also think that orthodontic procedures was stressful and expensive, which was similar to findings in a previous studies.^{4,14}

This study showed that more females constituted the study population and more females had awareness of malocclusion and positive attitude towards orthodontic treatment, which is similar to findings in a previous study.¹⁸ The relationship between awareness of malocclusion, and attitude towards orthodontic treatment and sex showed no statistically significant difference. Previous study showed that both male and females showed the same levels of awareness and attitude towards orthodontic treatment.¹⁶

Conclusion

This study showed that majority of the respondents were aware of the term mal-alignment and also had positive attitude orthodontic treatment. More females constituted the study population.

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