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Self-Perceptions of Dental Appearance among Nigerian Adolescents from the Three Major Ethnic Groups

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Abstract

Background: The dental appearance of an individual could impact positively or negatively on self-perception. This study compared dental aesthetic-related self-perception among the three major ethnic groups in Nigeria.

Methods: Adolescents from the three major Nigerian tribes were randomly selected from nine secondary schools across three states. Participants completed a self-administered questionnaire which sought to establish whether they were pleased with their natural dentition, aware of the possibility of dental realignment, willing to have dental realignment and their relative satisfaction compared to peers' dentition. The SPSS version 25 was used to analyse the data and the statistical significance level was set at $p < .05$.

Results: There were 1,366 adolescents aged 12-16 years comprising 599 Hausa (H), 307 Igbo (I) and 460 Yoruba (Y). Igbo had a slightly higher proportion of participants pleased or definitely pleased with their natural dentition (I(81.1%), H(80.6%), Y(79.6%). They were also the most aware of the possibility of dental realignment (I(85.0%), Y(70.4%), H(64.1%); and the most interested in having their teeth realigned (I(77.9%), Y(47.6%), H(22.5%). When compared with their peers, a greater proportion of Hausa adolescents (80.0%) were either satisfied or very satisfied with their dental appearance in comparison to Igbo (56.0%) and Yoruba (55.2%). The mean differences of the responses among the tribes for all four questions were statistically significant. Similar comparisons between genders also showed statistically significant differences.

Conclusion: There are significant differences between the tribes and between genders in terms of self-perception of dental appearances. While all tribes expressed being pleased with their natural teeth, the Igbos were significantly most likely to seek improvement in their dental appearances.

Keywords: Self-Perception, Dental Appearance, Hausa, Yoruba, Igbo Tribes, Nigeria.

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Introduction

Among other definitions, perception refers to the way something is regarded, understood, or interpreted. Perception, in humans, is the process whereby sensory stimulation is translated into organised experience. That experience, or percept, is the joint product of the stimulation and the process itself.¹

In the period of adolescence, dental appearance takes on significant importance in the construction of personal identity and this may influence psychological adjustment and relationship status.² It is generally regarded as an emotionally intense and often stressful³ period when teenagers experience various mood swings.⁴ These changes make adolescents get concerned about the appearance of their teeth and are easily affected by peer influence. Also, significant differences could be found when comparing the evaluation of dentists from various countries and with their patients' self-evaluation.⁵ The importance of assessing self-perception of dental appearance cannot be overemphasised, considering the significant differences between the professional and laypersons' assessments of dental appearance, as well as the cultural differences⁵⁻¹⁰

Previous related studies in Nigeria have shown that Nigerian adolescents consider dental aesthetics to be

important, especially for social and psychological reasons.^{8,9,11-16} However, none of the earlier Nigerian studies investigated specifically among the major ethnic regions the self-perception of their adolescents' dental appearance. It is worthwhile to note that Nigeria is a multi-ethnic country with Igbo, Yoruba, and Hausa tribes as the three major ethnic regions and each claiming a distinct ancestral origin. In addition, their cultures are mainly different from each other. The only normative orthodontic treatment needs concerning these three major ethnic regions in Nigeria discovered significant differences.¹⁷ This study therefore aimed to assess and compare self-perception of dental appearance among adolescents from the three major ethnic groups in Nigeria with a null hypothesis that there would be no statistically significant differences among adolescents from these three major ethnic groups in Nigeria and with reference to their gender.

Materials and methods

A self-administered questionnaire-based cross-sectional study was conducted. The study involved 12-16-year-old adolescents from the three major ethnic groups in Nigeria – Igbo, Yoruba, and Hausa. The selection of the study participants was done using the results of the last Nigerian population census carried out in 2006, which was used to calculate the study sample. The adolescents were drawn from nine (9) secondary schools randomly selected from the list of schools provided by the States' Education Boards. Three schools were selected from three states which were randomly selected from the states populated by the three major ethnic populations in Nigeria, using a random table.

A self-administered questionnaire used in previous studies^{8,9,11,12-16} was adopted for this study to elicit information from the adolescents. The questionnaire was divided into two sections. The first part elicited information regarding the demographic characteristics of the participants such as age, sex and parents' tribe (only children whose parents are from the same ethnic group were recruited). The second part included questions dealing with satisfaction with the arrangement and attractiveness of their teeth, regarding the colour and their opinion on the arrangement of their teeth, in comparison with their peers. The inclusion criteria for the study were as follows: Adolescents with no history of any form of

orthodontic treatment; adolescents from any of the three major ethnic groups; and adolescents whose parents (both father and mother) were from the same ethnic group.

Ethical Approval: Informed consent was obtained from the parents of each participant and assent was obtained from the participants. Ethical approval for the study was duly obtained from the Ethics and Research Committee of the University of Port Harcourt Teaching Hospital, Port Harcourt, Rivers State, Nigeria.

Data Analysis: The data was analysed using Statistical Package for Social Sciences (SPSS 25 Inc, Chicago, IL, USA). In addition to the descriptive statistics used, the Chi-square test and Analysis of variance (ANOVA) were employed to test the null hypotheses with the significance level set at P-value > 0.05.

Results

The final study sample involved one thousand, three hundred and sixty-six (1,366) adolescents - 616 (45.1%) females and 750 (54.9%) males within the age range of 12-16 years and a mean age of 14.2 ± 1.2 (SD).

For weighting of the responses to the questions in the Questionnaire: Definitely Yes, was given a score of 5, Yes = 4, I do not know = 3, No = 2, and Definitely No = 1. For very satisfactory, a score of 5, Satisfactory = 4, Do not Know = 3, Unsatisfactory = 2, Very unsatisfactory = 1

The responses of all the participants according to tribe (ethnic group) are shown in Table 1 with the Yoruba adolescents expressing significantly the highest 'I do not care' ($P < .000$) and significantly expressed 'Not sure they would want to have their teeth arranged properly' ($P < .0001$). The Hausa adolescents were significantly least aware of the possibility of having their teeth arranged properly ($P < .0001$), and significantly the most uninterested in arranging the teeth properly ($P < .0001$). They also had the highest proportion of adolescents among the three tribes who liked the arrangement of their teeth. When compared with their peers, they claimed to be significantly most satisfied with their teeth ($P < .0001$). Meanwhile, the Igbo adolescents were the most significantly satisfied with the arrangement of their teeth and significantly aware their teeth could be re-arranged properly, as well as being significantly

willing to have their teeth arranged ($P < .0001$). Comparing their teeth with their peers, the Hausa adolescents were significantly more satisfied with their teeth arrangement than the two other tribes ($P < .0001$). Table 1 shows the rejection of the first null hypothesis of this study.

Table 2 shows the responses of the 1,366 adolescents according to gender to the various questions in the questionnaire with statistically significant differences generally observed between the male and female adolescents. The female adolescents were significantly more satisfied with the appearance of their teeth than the males, while significantly more male adolescents expressed that they 'do not care' about the arrangement of their teeth than the females

($P = .002$). Also, significantly more female adolescents were aware that their teeth could be rearranged than their male counterparts ($P = .001$). Significantly more male adolescents would not want their teeth to be re-arranged properly ($P < .0001$). More female adolescents were significantly more satisfied with the arrangement of their teeth when compared with their peers than male adolescents ($P = .007$). This shows the rejection of the second hypothesis of this current Nigerian study.

The Analysis of Variance of the responses of the participants across the three ethnic groups is shown in Table 3, which confirms statistically significant differences in all the items (questions) across the ethnic groups ($P < .0001$). This confirms the rejection of the first null hypothesis of this present study.

Table 1: Responses of adolescents by tribe

	Tribe						p-value
	Hausa		Igbo		Yoruba		
	N	(%)	N	(%)	N	(%)	
Do you like the way your teeth are arranged?							
Definitely yes	8	(1.3)	116	(37.8)	193	(42.0)	<0.0001
Yes	475	(79.3)	133	(43.3)	173	(37.6)	
I don't care	4	(.7)	7	(2.3)	17	(3.7)	
No	103	(17.2)	46	(15.0)	60	(13.0)	
Definitely no	9	(1.5)	5	(1.6)	17	(3.7)	
Do you know your teeth can be arranged?							
Yes	384	(64.1)	261	(85.0)	324	(70.4)	<0.0001
No	215	(35.9)	46	(15.0)	136	(29.6)	
Would you want your teeth to be arranged properly?							
Yes	135	(22.5)	239	(77.9)	219	(47.6)	<0.0001
Not sure	1	(.2)	35	(11.4)	142	(30.9)	
No	463	(77.3)	33	(10.7)	99	(21.5)	
Comparing your teeth to your peers, what will you say about them?							
Don't know	2	(.3)	93	(30.3)	130	(28.3)	<0.0001
Very unsatisfactory	13	(2.2)	17	(5.5)	27	(5.9)	
Unsatisfactory	105	(17.5)	25	(8.1)	49	(10.7)	
Satisfactory	469	(78.3)	106	(34.5)	196	(42.6)	
Very satisfactory	10	(1.7)	66	(21.5)	58	(12.6)	
Total	599	(100.0)	307	(100.0)	460	(100.0)	

Table 2: Responses of Nigerian adolescents by gender

	Sex				p-value
	Male		Female		
	N	(%)	N	(%)	
Do you like the way your teeth are arranged?					
Definitely yes	130	(21.1)	187	(24.9)	0.002
Yes	387	(62.8)	394	(52.5)	
I don't care	8	(1.3)	20	(2.7)	
No	77	(12.5)	132	(17.6)	
Definitely no	14	(2.3)	17	(2.3)	
Do you know your teeth can be arranged?					
Yes	466	(75.6)	503	(67.1)	0.001
No	150	(24.4)	247	(32.9)	
Would you want your teeth to be arranged properly?					
Yes	260	(42.2)	333	(44.4)	<0.0001
Not sure	58	(9.4)	120	(16.0)	
No	298	(48.4)	297	(39.6)	
Comparing your teeth to your peers, what will you say about them?					
Don't know	94	(15.3)	131	(17.5)	0.007
Very unsatisfactory	23	(3.7)	34	(4.5)	
Unsatisfactory	63	(10.2)	116	(15.5)	
Satisfactory	364	(59.1)	407	(54.3)	
Very satisfactory	72	(11.7)	62	(8.3)	
Total	616	(100.0)	750	(100.0)	

Table 3: Analysis of Variance for the responses of the adolescents in the three major ethnic groups in Nigeria

	Tribe						p-value	
	Yoruba		Igbo		Hausa			
	Mean	SD	Mean	SD	Mean	SD		
Do you like the way your teeth are arranged?	4.01	1.15	4.01	1.07	3.62	0.84	25.59	<0.0001
Do you know your teeth can be arranged?	1.70	0.46	1.85	0.36	1.64	0.48	22.21	<0.0001
Would you want your teeth to be arranged properly?	1.26	0.79	1.67	0.66	0.45	0.84	283.64	<0.0001
Comparing your teeth to your peers, what will you say about them?	3.05	1.46	3.11	1.57	3.79	0.51	61.43	<0.0001

Discussion

In this cross-sectional study, the opinions of adolescents from three major ethnic groups in Nigeria on their dental attractiveness were elicited. Most of the Hausa adolescents were satisfied with their teeth arrangement when compared with the adolescents from Igbo and Yoruba ethnic groups. While a significant proportion of the Hausa participants did not like the arrangement of their teeth, they were not aware of the possibility of getting their teeth re-arranged properly, and as such, were not really bothered about the arrangement of their teeth. This finding suggests a good level of ignorance of the available dental care services around them and a poor attitude towards their dental attractiveness. This may reflect poor dental education for them, as well as the effect of their religious belief system, which makes them accept whatever they have as coming from God without many complaints.

Meanwhile, the Igbo tribe had the highest proportion of adolescents in the three tribes who liked the arrangement of their teeth and were significantly aware of the possibility of re-arranging their teeth properly. They were also the most willing to have their teeth properly arranged and when compared with their peers, they gave a moderate rating of their teeth arrangement. This could be a reflection of the aesthetic consciousness of the tribe and their good level of social exposure. This finding would seem to corroborate the earlier finding of the relatively lower need for normative orthodontic treatment among Igbo adolescents in comparison with the other two ethnic groups.¹⁷ The close figures in the proportion of Igbo and Yoruba adolescents who were satisfied with their teeth arrangement when compared with their peers could be an indication of the realistic judgments of these adolescents about their dentition. This could be due to the social awareness and higher dental health awareness among adolescents from the southern part of the country where the teaching and practice of dentistry, especially orthodontics, has been for a relatively longer time than the northern part of Nigeria.

The findings of this study show that while significantly more female adolescents expressed greater satisfaction with their teeth when compared with their peers, their male counterparts expressed a

significant lack of interest in arranging their teeth compared to the females. This could be a reflection of the fact that male adolescents generally do not care much about dental aesthetics compared to their female counterparts. This finding is not unusual as males generally tend not to place much importance on their dental attractiveness, unlike females.^{6,7,18,19}

This finding also corroborates the findings of a previous Nigerian study¹⁶ which found that the studied female population was satisfied with their dental aesthetics compared to their male counterparts. However, another much earlier Nigerian study⁸ did not find any statistically significant difference between boys and girls in their perceived need for orthodontic treatment. In the first Nigerian publication on this subject, Onyeaso and Sanu¹³ did not find any statistically significant gender differences in their work. In addition, the study¹³ found significant, negative, weak correlations between Nigerian adolescents' awareness of malocclusion and satisfaction with one's personal dental appearance at the various severity levels of malocclusion. It must be noted that this present study is comparing major ethnic groups while the previous Nigerian studies^{8,13} were carried out among Yoruba-dominated populations.

Indeed, this study has shown statistically significant variations among the three major ethnic groups in Nigeria, as well as among the female and male adolescents in the three ethnic groups. The present findings seem to suggest a confirmation of the variations in occlusion/malocclusion associated with ethnicity, sex, and geography.²⁰⁻²⁵

This study also has some strengths and limitations. The sample was very representative as it was drawn from different parts of the country that targeted only adolescents whose two parents were from the same ethnic region to qualify for inclusion. No previous study in Nigeria has this spread in its participants. However, standard pictures of various teeth arrangements were not shown to the adolescents as the idea was to assess the adolescents based on the everyday perception of their peers' dentition directly.

Further studies should be done on self-perception of the dentition of adolescents among the minor tribes in Nigeria because Nigeria is a very multi-ethnic nation, and this will give a more holistic view for better

education and more realistic management of Nigerian orthodontic patients who are mainly adolescents.

Conclusion

When comparing the arrangement of teeth with peers, the Hausa adolescents were significantly most satisfied with the arrangement of their teeth in comparison with the other two tribes and were significantly most unaware of the possibility of having their teeth re-arranged. Although they scored the highest in not liking the arrangement of their teeth, they showed the least interest in having their teeth arranged properly.

The Igbo adolescents had the highest proportion of participants who liked the arrangement of their teeth

among the three tribes and were significantly the most aware of the possibility of arranging teeth properly. They also showed the highest level of willingness to have their teeth properly arranged, compared with their peers.

In all, the self-perception of dental appearance by adolescents from the three major ethnic groups in Nigeria varied significantly among the tribes, and based on gender.

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