Scholars Journal of Applied Medical Sciences
Abbreviated Key Title: Sch J App Med Sci
ISSN 2347-954X (Print) | ISSN 2320-6691 (Online)
Journal homepage: https://saspublishers.com

OPEN ACCESS

Anatomy

Pattern of Earlobes Attachment among the Idoma People of Benue State, Nigeria

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DOI: 10.36347/sjams.2022.v10i12.057 | **Received:** 03.11.2022 | **Accepted:** 14.12.2022 | **Published:** 18.12.2022

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Abstract **Original Research Article**

Introduction: In anthropology, certain characteristics may help to distinguish these tribes or races from others. To some extent, it can be used as a method of identification for these people. The earlobes are regarded as a significant anthropological trait on the face. Again, some civilizations use piercing decorations to stretch and enlarge the earlobes in order to create artistic effects and make room for plugs. ***Materials and Methods:*** The sample size for the study was 401, recruited via a multistage sampling method. Physical and close examination of the earlobe to determine the type of earlobe attachment present was used to collect data from consenting participants. The research instrument was a self- created; closed-ended questionnaire that was adapted for use based on previous literature on similar studies and was administered by the researcher. The data were grouped into attached or detached categories. ***Results and Discussions:*** The result of the study showed that the attached earlobe pattern was most frequent (227, 56.6%), while the detached was 174, 43.4%). The result of the study showed that the males had more attached earlobes (130; 32.4%) and detached earlobes (93; 23.2%), while the females had attached earlobes (95; 23.7%) and detached earlobes (79; 19.7%). The distribution of the earlobe attachment differed significantly (X^2 = 13.213, p-value 0.004). The most common marital status was married or cohabiting with an attached earlobe (118, 29.4%) or a detached earlobe (102, 25.4%). ***Conclusions:*** The result of the study showed that the attached earlobe pattern was most frequent (227, 56.6%), while the detached was 174, 43.4%). In the general population, for every six detached earlobes seen, there are eight attached earlobes in the same Idoma population. The study has revealed that there are more attached earlobes than detached ones in the Idoma population of Benue State. It further implies that this distribution could be taken as an anthropological feature unique to them. We recommend that the result of this study be used as baseline data for the Idoma people of Benue State.

Keywords: Attached, Detached, Earlobe, Idoma, Benue State.

INTRODUCTION

An impression of a person's appearance, including their facial features, physical characteristics, and other characteristics that are noticeable and easy to observe at a glance, is created by their anthropological features. Certain characteristics may help distinguish these tribes or races from others. To some extent, it can be used as a method of identification for these people [1-4].

The lower part of a person's outer ear is called the lobulus auriculae. It is made up of tough areolar and adipose connective tissues and is not as hard or flexible as the rest of the auricle, which is the outside part of the ear. [5-6] The side of the face may occasionally be attached to the lower lobe due to the absence of cartilage in the earlobe; this is the basis of the pattern of earlobe attachment, which could be attached or detached (free, unattached). The earlobes are regarded as a significant anthropological trait on the face [7-9].

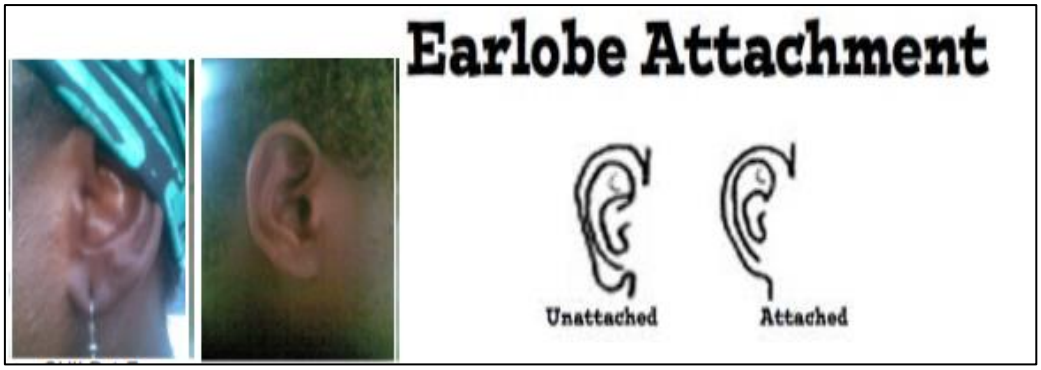

Figure 1: Earlobe attachment

There is no other part of the body that is as frequently pierced as the earlobes, which have been done throughout various cultures and historical periods. As a result, damage to the ear lobe from heavy earrings is also frequent. Some civilizations use piercing decorations to stretch and enlarge the earlobes in order to create artistic effects and make room for plugs [10-11].

Currently, there is a dearth of data on the pattern of earlobe attachment among the Idoma people of Benue State, Nigeria. It is therefore necessary to document the distribution of the earlobe attachment amongst the Idoma tribe of Benue State, Nigeria.

There are already existing works on earlobe attachment by other authors who have worked on ear morphology, lobe attachment, its role in personal identification, and cultural relevance [12-17].

MATERIALS AND METHODS

Study Design

The study was community-based, descriptive, and cross-sectional.

Study Area

Otukpo is a town in Benue State, Nigeria, located in the Middle Belt Region of Nigeria. It is the headquarters of the Otukpo Local Government Area [18]. Occupied mainly by the Idoma-speaking people, the people are predominantly Christians, and farming is the major occupation. According to the National Population Commission [19].

Sample Size Determination

The sample size will be calculated using the Goddien formula:

$$n = \frac{Z^2P(1-P)}{M^2}$$

Where:

Z = statistic to be used at 5% significance level in the two tail test = 1.96

M = 5% allowable sampling error = 0.05

P = Assuming a 50% population = 0.5

n = sample size for an infinite population

n = 384.16

Even though the calculated sample size was at least 384, the sample size of 401 was thought to be enough for the study because it would make sure that the data was spread out in a normal way.

Sampling Technique

The sampling technique for the study was multistage sampling. This was done in two stages: simple random sampling at stage 1; and stratified random sampling at stage 2. A list of all communities in Otukpo LGA was made and numbered sequentially, which served as the sampling frame for random sampling. The numbers corresponding to the names were written on small pieces of paper, and the papers were folded to conceal the number. The folded papers were then picked randomly and blindly using a table of random numbers. In each community, the research assistants located the centre of the community and spanned a ballpoint pen, following the direction of the pen to determine the street or compound to begin the sampling. In the street or compound, the houses were numbered sequentially, and a table of random numbers was used to select the first house to be sampled. At stage 2, consecutive sampling was employed to select every odd-numbered house for sampling until the sample size was achieved.

Study Instrumentation

Study Questionnaire

The research instrument was a self-created, closed-ended questionnaire that was adapted for use based on previous research on similar studies. Section A explored socio-demographic factors such as age, educational level, marital status, religion, tribe, and place of residence. Section B examined the pattern of earlobe attachment. The questionnaire was pre-tested among 40 volunteers who share similar characteristics with the study population. The number 40 corresponds with 10% of the desired minimum sample size. Modifications and adjustments were made to the procedure and the study instruments in response to the pre-test.

Procedure for Data Collection

Data for the entire study was collected over a period of two months. Two research assistants (both male) were trained to assist with the collection of data, and a data collection plan was drawn to serve as a guide. All participants in the study were assured of strict confidentiality and were not required to provide their names.

Data Analysis

The information obtained from the structured questionnaire was entered and analysed using Statistical Package for Social Sciences (SPSS) version 25. Descriptive statistics were carried out on socio-demographic data. The frequencies generated were presented using tables and charts. The chi-square test was used to examine the relationship between variables. A p-value of less than 0.05 was considered significant, and 95% confidence intervals were used as measures to determine the strength of the association.

Ethical Approval

Ethical approval was sought from the Research and Ethics committee of the Federal University of Health Sciences, Otukpo, before the commencement of the study. Written permission to conduct the study was obtained from the respective community CDCs and gatekeepers. A consent form was given to all participants, which they signed after reading the information provided about the nature of the study. Participants were free to opt out of the study without penalty, and strict confidentiality was assured.

RESULTS AND DISCUSSIONS

Table 1: Pattern of earlobe attachment among the Idoma people of Benue State

Earlobe attachment	Frequency (n)	Per cent (%)	Total
Attached	227	56.6	56.6
Detached/Unattached	174	43.4	43.4
Total	**401**	**100.0**	**100.0**

The result of the study showed that the attached earlobe pattern was most frequent 227(56.6%), while the detached was 174(43.4%) as seen in table 1.

Table 2: Comparison of Socio-demographics and Pattern of earlobe attachment among the Idoma people of Benue State

Socio-demographics	Earlobe attachment n(%)			
	Attached	detached	Total	X^2(P-Value)
Gender				
Male	130(32.4)	93(23.2)	223(55.6)	
Female	95(23.7)	79(19.7)	174(43.4)	0.616(0.735)
I do not wish to disclose	2(0.5)	2(0.5)	4(1.0)	
Total	**227(56.6)**	**174(43.4)**	**401(100.0)**	
Age category				
18 – 32years	72(18.0)	53(13.2)	125(31.2)	
33 – 47years	118(29.4)	95(23.7)	213(53.1)	0.425(0.935)
48 - 62years	35(8.7)	24(6.0)	59(14.7)	
63 – 77years	2(0.5)	2(0.5)	4(1.0)	
Total	**227(56.6)**	**174(43.4)**	**401(100.0)**	
Religion				
Christianity	162(40.4)	124(30.9)	286(71.3)	
Islam	41(10.2)	32(8.0)	73(18.22)	0.130(0.988)
Traditionalist	22(5.5)	17(4.2)	39(9.7)	
Others	2(0.5)	1(0.2)	3(0.7)	
Total	**227(56.6)**	**174(43.4)**	**401(100.0)**	
Educational level				
No formal education	57(14.2)	24(6.0)	81(20.2)	
Primary	1(0.2)	2(0.5)	3(0.7)	**13.213(0.004)**
Secondary	50(12.5)	28(7.0)	78(19.5)	
Tertiary	119(29.7)	120(29.9)	239(59.6)	
Total	**227(56.6)**	**174(43.4)**	**401(100.0)**	
Marital status				
Single/Never married	97(24.2)	67(16.7)	164(40.9)	
Married/cohabiting	118(29.4)	102(25.4)	220(54.9)	2.574(0.276)
Divorced/separated	12(3.0)	5(1.2)	17(4.2)	
Total	**227(56.6)**	**174(43.4)**	**401(100.0)**	

Tertiary education was the most common educational level, with 119 (29.5%) attached earlobes and 120 (29.5%) detached earlobes, for a total distribution of 239 (59.6%). The distribution of the earlobe attachment differed significantly (X^2 = 13.213, p-value 0.004), as shown in table 2.

DISCUSSION OF FINDINGS

Summary of Results

The result of the study showed that the attached earlobe pattern was the most frequent 227(56.6%), while the detached was 174(43.4%) as seen in table 1.

The result of the study showed that the males had more attached earlobes (130; 32.4%) and detached earlobes (93; 23.2%), while the females had attached earlobes (95; 23.7%) and detached earlobes (79; 19.7%). The most common age group was 33–47 years, with attached earlobes 118 (29.4%), detached earlobes 95 (23.7%), and a total distribution of 213 (53.1%); the most common educational level was tertiary, with attached earlobes 119 (29.7%), detached earlobes 120 (29.9%), and a total distribution of 239 (59.6%). The distribution of the earlobe attachment differed significantly (X^2 = 13.213, p-value 0.004). The most common marital status was married or cohabiting with attached earlobes (118, 29.4%) or detached earlobes (102, 25.4%), as shown in table 2.

Implications of the Findings

The result of the study showed that for every three males that have detached earlobes, there are four males with attached earlobes. It also showed that one in three males has an attached earlobe in the Idoma population. Similarly, for every five detached earlobes, there are six attached earlobes in the females of the Idoma population. In addition, one in every four females has an attached earlobe. In the general population, for every six detached earlobes seen, there are eight attached earlobes in the same Idoma population. The study has revealed that there are more attached earlobes than detached ones in the Idoma population of Benue State. It further implies that this distribution could be taken as an anthropological feature unique to them.

This current study reported a high prevalence of attached earlobes in the Idoma population; these findings corroborate the reports of Verma *et al.,* [12] and Murgod *et al.,* [13], who stated that there were more attached earlobes (65% and 27%, respectively) than the detached (free) in their study. Contrarily, Bhasin *et al.,* [14] in their research on the Newar people of Nepal reported that the detached earlobe was the most frequent pattern (50.89% of the time) compared to the attached pattern (49% of the time). In their study, Ordu *et al.,* [15] also reported that the detached earlobe pattern was more prevalent than the attached. Again, Krishan *et al.,* [16] added that there were more free (detached) earlobes than attached earlobes in their population. Furthermore, Francis *et al.,* [17] stated in their study that there were more detached earlobes (58.1%) than attached earlobes (41.9%).

CONCLUSIONS

The result of the study showed that the attached earlobe pattern was most frequent 227(56.6%), while the detached was at 174(43.4%). The most common educational level was tertiary, with attached earlobes of 119 (29.7%), detached earlobes of 120 (29.9%), and a total distribution of 239 (59.6%). In the general population, for every six detached earlobes seen, there are eight attached earlobes in the same Idoma population. The study has revealed that there are more attached earlobes than detached ones in the Idoma population of Benue State. It further implies that this distribution could be taken as an anthropological feature unique to them. We recommend that the result of this study be used as baseline data for the Idoma people of Benue State.

CONFLICT OF INTEREST: The authors declared no conflict of interest.

FUNDING: The study was self-funded.

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