

Descriptive Study of the Idoma People and Pattern of Hand Clasping

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Abstract

Introduction: There are millions of people in the world but no two humans are exactly alike not even identical twins. Genetic variations in man are caused by several environmental factors acting alongside with selection, gene flow, genetic drift and migration. Studies have been done on morphogenetic traits such as the pattern of hand clasping in some parts of Africa and among some tribes in southern region of Nigeria but there is no available data on the pattern of hand clasping among the Idoma tribe of Benue State. Hence, this study aimed to determine the pattern of hand clasping among the Idoma people of Benue State, Nigeria. **Materials and Methods:** The study was community-based, descriptive, and cross-sectional with a sample size of 401. Data was collected using a closed-ended questionnaire that was administered by an interviewer following an examination of hand clasping pattern. **Results and Discussion:** The proportion of participants that expressed hand clasping with the left thumb on top was 16.7%, while right thumb on top was 83.3%. There were no significant socio-demographic characteristics among participants ($p > 0.05$). **Conclusions:** The study implies that hand clasping with the right thumb on top is a marked characteristic of the people of Idoma and, as such, can be used to identify them amongst other tribes where the identity of the tribes is not known ab initio.

Keywords: Morphogenetic traits, Hand Clasping, Idoma, Nigeria.

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INTRODUCTION

The human population is characterized by a set of gene(s) controlling traits which are crucial criteria for studying genetic diversity [1]. Morphogenetic traits are observable characters inherited by individuals from their parents and are usually expressed differently among population [2]. Morphogenetic traits in humans include height, weight, eye and hair colour, straight or widow's peak, hair line, straight or curved thumb, ability or inability to roll the tongue, free or attached

earlobe, right or left-hand clasping, Morton's toe among others [2, 3]. Majority of morphogenetic characters are inherited in simple Mendelian pattern as either autosomal dominant or autosomal recessive. Several environmental factors influence the occurrence of genetic variations in human population [4, 5].

Hand clasping refers to the preferential tendency for individuals to clasp their hands together. It is a morphogenetic trait that is easy to observe [6]. Most individuals clasp their hands in one way; either with the

left thumb on top or the right thumb on top. Many surveys have reported that roughly half of the people studied clasp their hands with the right thumb on top while the other half clasp with the left thumb on top. Studies have also shown that when individuals are asked to interlace their fingers, some tend to put the fingers of their most dominant or preferred hand over the other [6, 7].

The pattern of hand clasping has been studied among some tribes in Southern and Northern Nigeria. For example, the findings from two ethnic groups (Ibibio and Ananng) in Akwa Ibom State and studies carried out in Calabar, Edo, Delta, Lagos and Kwara state showed that right hands clasping were more predominant than left hands indicating that right hand clasping was one of the most dominant traits [1, 3, 8, 9].

There is a need to study the pattern of hand clasping among other tribes in Nigeria so as to appreciate the variation that exist among them. Presently, there is a dearth of information on the pattern of hand clasping among the Idoma people of Benue State, Nigeria. Hence, this study was done to determine the pattern of hand clasping among the people of the Idoma tribe with the need to address the issue relating to ethnic/cultural identity based on hand peculiarity.

MATERIALS AND METHODS

Study Design

The study was descriptive and cross-sectional in design.

Study Area

The study was done on the Idoma tribe of Benue State. Otukpo town is the ancestral headquarter of the Idoma people in Benue State, Nigeria, located in the Middle Belt Region of Nigeria.

Sample Size

The sample size of 401 participants was calculated using Cochran formula for a descriptive and cross-sectional study [10].

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. At stage 1, a list of all communities in Otukpo LGA was compiled 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.

Eligibility Criteria

Participants who are indigenes of Idoma whose both parents, grandparents, and great-grandparents were Idoma; those who reside in Idoma land, and those who have malformations of the feet were excluded from the study. Also those with different or dual parental ethnic lineage were excluded.

Data Collection

For the study, information was gathered with the help of a self-made, closed-ended questionnaire that was changed based on research from similar studies. Section A explored socio-demographic factors such as age, educational level, marital status, and religion. Section B examined the preference for hand clasping (right thumb on top or left thumb). The participants were not told the reason for asking them to illustrate hand clasping before they did it; this was done to avoid bias resulting from prior knowledge of the involuntary act. The questionnaire was pre-tested among 40 volunteers who share similar characteristics with the study population. Modifications and adjustments were made to the procedure and the study instruments in response to the pre-test.

Data Analysis

The information obtained from the structured questionnaire was entered and analysed using the 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. The content of the consent form was clearly read out to participants who could not read in a language best understood by them. Participants were free to opt out of the study without penalty, and strict confidentiality was assured.

RESULTS

Table 1: Socio-demographic characteristics of participants

| Socio-demographic characteristics | Frequency (n) | Per cent (%) |
|-----------------------------------|---------------|--------------|
| Age category | | |
| 18 -32 | 126 | 31.2 |
| 33 -47 | 213 | 53.1 |
| 48 -62 | 59 | 14.7 |
| 63 -77 | 4 | 1.0 |
| Total | 401 | 100.0 |
| Gender | | |
| Male | 223 | 55.6 |
| Female | 178 | 44.4 |
| Total | 401 | 100.0 |
| Education | | |
| No formal education | 81 | 20.2 |
| Primary education | 3 | 0.7 |
| Secondary education | 78 | 19.5 |
| Tertiary education | 239 | 59.6 |
| Total | 401 | 100.0 |
| Marital status | | |
| Single/Never married | 164 | 40.9 |
| Married/Co-habiting | 220 | 54.9 |
| Divorced/separated | 17 | 4.2 |
| Total | 401 | 100.0 |
| Religion | | |
| Christianity | 286 | 71.3 |
| Islam | 73 | 18.2 |
| Traditional | 39 | 9.7 |
| Others | 3 | 0.7 |
| Total | 401 | 100.0 |

The most frequent socio-demographic characteristics were age category 33-47yrs with 213(53.1%), male gender with 223(55.6%), Tertiary

education with 239(59.6%), Married/Co-habiting 220(54.9%), and Christianity 286(71.3%).

Table 2: The distribution of hand clasping among the Idoma people of Benue State

| Handclasping | Frequency | Per cent |
|--------------------|------------|--------------|
| Left thumb on top | 67 | 16.7 |
| Right thumb on top | 334 | 83.3 |
| Total | 401 | 100.0 |

The proportion of participants that expressed handclasping with the left thumb on top was 16.7%, while right thumb on top was 83.3%.

Table 3: Comparison of Hand clasping distribution with socio-demographic characteristics

| Socio-demographic characteristics | Handclasping | | | X ² (p-value) |
|-----------------------------------|-----------------|------------------|-------------------|--------------------------|
| | Left thumb | Right thumb | Total | |
| Gender | | | | |
| Male | 40(10.0) | 183(45.6) | 223(55.6) | 2.391(0.303) |
| Female | 27(6.7) | 151(37.7) | 178(44.4) | |
| Total | 67(16.7) | 334(83.3) | 401(100.0) | |
| Age category | | | | |
| 18 -32 | 15(3.7) | 110(27.4) | 125(31.1) | 1.582(0.664) |
| 33 -47 | 30(7.5) | 183 (45.7) | 213(53.2) | |
| 48 -62 | 20(5.0) | 39(9.7) | 59(14.7) | |
| 63 -77 | 2(0.5) | 2(0.5) | 4(1.0) | |
| Total | 67(16.7) | 334(83.3) | 401(100.0) | |

| Socio-demographic characteristics | Handclaspings | | | X ² (p-value) |
|-----------------------------------|-----------------|------------------|-------------------|--------------------------|
| | Left thumb | Right thumb | Total | |
| Education | | | | |
| No formal education | 17(4.3) | 64(16.0) | 81(20.3) | 3.806(0.283) |
| Primary education | 2(0.5) | 1(0.2) | 3(0.7) | |
| Secondary education | 15(3.7) | 63(15.7) | 78(19.4) | |
| Tertiary education | 33(8.2) | 206(51.4) | 239(59.6) | |
| Total | 67(16.7) | 334(83.3) | 401(100.0) | |
| Marital status | | | | |
| Single/Never married | 37(9.2) | 127(31.7) | 164(40.9) | 1.621(0.445) |
| Married/Co-habiting | 20(5.0) | 200(49.9) | 220(54.9) | |
| Divorced/separated | 10(2.5) | 7(1.7) | 17(4.2) | |
| Total | 67(16.7) | 334(83.3) | 401(100.0) | |
| Religion | | | | |
| Christianity | 42(10.5) | 244(60.8) | 286(71.3) | 0.307(0.959) |
| Islam | 15(3.7) | 58(14.6) | 73(18.3) | |
| Traditional | 8(2.0) | 31(7.7) | 39(9.7) | |
| Others | 2(0.5) | 1(0.2) | 3(0.7) | |
| Total | 67(16.7) | 334(83.3) | 401(100.0) | |

There was no significant ($p > 0.05$) socio-demographic characteristic among participants.

DISCUSSIONS

Summary of Results

The most frequent socio-demographic characteristics were age category 33–47 years with 213 (53.1%), male gender with 223 (55.6%), tertiary education with 239 (59.6%), married/cohabiting with 220 (54.9%), and Christianity with 286 (71.3%). There was no significant ($p > 0.05$) socio-demographic characteristic among participants. The proportion of participants that expressed hand clasping with the left thumb on top was 16.7%, while the right thumb on top was 83.3%.

Implications of the Findings

The study showed that far less than a third of the sampled population expressed hand clasping with the left thumb on top. The proportion that expressed hand clasping with the left thumb on top and with the right thumb on top was 1:5. This means that in the sampled population, there are five people for every one person who clasps their hands together with their left thumb on top. This further implies that hand clasping with the right thumb on top is a marked characteristic of the people of Idoma and, as such, can be used to identify them amongst other tribes where the identity of the tribes is not known.

Individuals of different origins and geographical locations may express some morphogenetic features differently or in a similar fashion due to alleles moving within the ethnic group [2]. The present study showed that right hand clasping was more prevalent (83.3%) among the participants compared to left hand clasping (16.7%). This trend was also reported by [10], who found right-hand clasping to be more prevalent among the university community in

Eastern Nigeria. Similarly, studies carried out in some parts of southern Nigeria (Calabar, Delta, Akwa Ibom, Lagos, and Northern Nigeria) and Kwara State also found right-hand clasping to be more prevalent with varying frequencies [3, 8, 9].

A study of morphogenetic traits among eight ethnic groups (Anioma, Edo, Igbo, Itsekiri, Isoko, Izon, Urhobo, and Yoruba) all in southern Nigeria also found that the predominant hand clasping pattern was right thumb up. The study revealed that 59.5% and 64.5% of males and females, respectively, had their right-hand thumb on top when hands were clasped, while 40.5% of males and 35.5% of females had their left thumb on top when hands were clasped [8]. The results of this study and other similar studies show that many Nigerian tribes tend to clasp hands with their right hands and that ethnicity doesn't have a big effect on how hands are clasped. The demographic feature of age category between 33–47 years was observed to reflect the hand clasping pattern of higher ratio of right over left.

CONCLUSION

The study implies that hand clasping with the right thumb on top is a marked characteristic of the people of Idoma and, as such, can be used to identify them amongst other tribes where the identity of the tribes is not known ab initio.

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