

The Prevalence and Comparison of Bent Little Finger and Hitchhiker's Thumb in South-South Nigeria

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Abstract: *Background:* One of the most important principles that govern life is inheritance of genes. There are over 200 traits that are transmitted from generation to generation in humans. When one of the two parents expresses the trait, there is 25-50% likelihood of passing it to any of the children; but if both parents have it, the probability doubles (50-100%). There are three main types of bent little finger, which are Camptodactyly, Clinodactyly and Kirner's deformity. The aim of this research is to find out and document data on the prevalence and comparison of dominant bent little finger and recessive Hitchhiker's thumb in South-South Nigeria. *Methods:* A random sample of three hundred and ten (male 119 and female 191) subject with age ranging from 17 to 49 years were observed for the presence or absence of bent little finger and Hitchhiker's thumb. *Results:* Prevalence of Bent Little Finger (BLT) in South-South Nigeria is 7.1% (male 1.6% and female 5.5%), while the prevalence of Hitchhiker's Thumb (HT) is 32.3% (male 15.5% and female 16.8%). Females tend to have more finger anomalies than their male counterparts in South-South Nigeria. *Conclusion:* females are conscious of their beauty and as such go extra miles to fix artificial such as nails, hair on the head, eye lashes, eye balls etc. On the contrary they tend to have more finger anomalies than their male counterparts in South-South Nigeria.

Key word: Deformities • Hitchhiker • Gene • Recessive and Dominant Trait

INTRODUCTION

One of the most important principles that govern life is inheritance of genes. There are over 200 traits that are transmitted from generation to generation in humans. These interesting aspects of human genetics are known as hereditary traits. These hereditary traits include the dominant and recessive traits in humans. Most of the genes are transmitted in the Mendelian pattern and a few are transmitted through the non-Mendelian pattern that includes: co-dominance, sex-linked genes and polygenes. The physical traits are those that are expressed and what makes every individual an 'individual' [1]. Traits inherited in an autosomal dominant pattern include free earlobe, early onset myopia, bent little finger, Achoo syndrome, tongue rolling, eye colour, mid-digital hair, facial dimples and

hand clasping [2]. When one of the two parents expresses the trait, there is 25-50% likelihood of passing it to any of the children; but if both parents have it, the probability doubles (50-100%) [3].

The malformation of the little finger was first described by Kirner [4]. It consists of radial bowing of the terminal phalanx. The tip of the little finger points towards the thenar eminence. This malformation is usually bilateral [4]. A dominant gene causes the last joint of the little finger to bend inward toward the fourth finger [5]. There are three main types of bent little finger, which are Camptodactyly, Clinodactyly and Kirner's deformity. Camptodactyly involves the metacarpo-phalangeal (hand/finger junction) and proximal inter-phalangeal joints. Clinodactyly involves the proximal inter-phalangeal joint only and Kirner's affects the end joint, the distal inter-phalangeal joint.

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Whilst these conditions are worrying for the parents, most children are unaffected both functionally and to begin with, emotionally by the deformities. The exception is usually a teenage girl, who becomes very conscious that the finger is not straight and therefore cosmetically it is a 'disaster'. They considered the deformity of the little finger as congenital with lack of the radiological signs before epiphyseal ossification at about the age of 2 years [6].

Camptodactyly is defined as a permanent flexion contracture of one or both fifth fingers at the proximal interphalangeal joints. Additional fingers might be affected, but the little finger is always involved. If all fingers of both hands show contractures some authors call the anomaly strebloodactyly [7-10]. Camptodactyly and strebloodactyly are used interchangeably, while camptodactyly is the more common term [11-13].

Hitchhiker's Thumb is a trait actually known as "Distal Hyperextensibility of the Thumb", but that is too hard to remember! This trait is distinguished by the ability to bend the distal joint of the thumb back as far as possible. Some people can bend their thumb back as far as a 90 degree angle. It is believed this trait is caused by a recessive gene (h), meaning 2 copies are required to display this characteristic [14]. Population diversity provides a unique opportunity to study the morphogenetic variation among the endogamous populations living in different geographical and ecological conditions [15]. The aim of this research is to find out and document data on the prevalence and comparison of dominant bent little finger and recessive Hitchhiker's thumb in Southern Nigeria.

MATERIALS AND METHODS

A random sample of three hundred and ten (male 119 and female 191) subject with age ranging from 17 to 49 years where collected in the May/June 2011. Subjects used where Nigerians dwelling in Bayelsa, South-South of the country, both parents of subjects were also from Nigeria. Subject with dislocation or fractured phalanges where excluded from the research. Inform consent was granted by individual subject. They were observed for the presence or absence of bent little finger and Hitchhiker's thumb. Data was analyzed by the use of simple percentage.

RESULT

The result shows that the Prevalence of Bent Little Finger (BLT) in South-South Nigeria is 7.1% (male 1.6% and female 5.5%), while the prevalence of Hitchhiker's Thumb (HT) is 32.3% (male 15.5% and female 16.8%).

DISCUSSION

The result shows that the prevalence of Bent Little Finger (BLT) in south-south Nigeria is 7.1%, it was discovered that 1.6% of the males had BLT and 5.5% for female, Table 1. This result is slightly higher than a previous research carried out by Armand *et al.*, [5], where the total recorded prevalence was less than 1%. Our result also was different from the result obtained in a Japanese village, Saito [16] found a frequency of 0.46% in males and 0.63% in females, but agreed from the perspective that the prevalence of BLT is higher in females than in males and in an estimated incidence of 1 in 410 where female was higher than male [17]. The prevalence of BLT according to our research and few other researches in the world shows a low prevalence, while females are on the increase when compared to their male counterparts.

The prevalence of Hitchhiker's Thumb (HT) has not really been given due attention. However in our research the prevalence of HT is 32.3% (male 15.5% and female 16.8%) Table 2. Which is higher than that of the BLT 7.1% and 32.3% respectively but the females still maintained a higher increase Table 3.

Table 1: Prevalence of Bent Little Finger (BLT)

Sex	Presence of BLF (%)	Absence of BLF (%)	Total (%)
Male	5 (1.6)	305 (98.4)	310 (100)
Female	17 (5.5)	293 (94.5)	310 (100)

Table 2: Prevalence of Hitchhiker's Thumb (HT)

Sex	Presence of HT (%)	Absence of HT (%)	Total (%)
Male	48 (15.5)	262 (84.5)	310 (100)
Female	52 (16.8)	258 (83.2)	310 (100)

Table 3: Comparison of the Presence of BLT and HT

Sex	BLT	HT
Male	5	48
Female	17	52
Total	22 (7.1%)	100(32.3%)

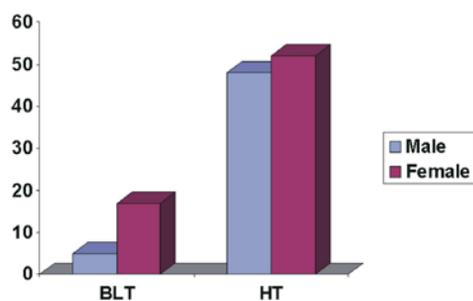


Fig. 1: Comparison of BLT and HT

CONCLUSION

Anthropology and indeed somatometry is an important aspect of Anatomy in which bent little finger and Hitchhiker's thumb may be classified into. It is therefore necessary to document and record the prevalence of these "anomalies" that has no effect. Finally, females are conscious of their beauty and as such go extra miles to fix artificial such as nails, hair on the head, eye lashes, eye balls etc. On the contrary they tend to have more finger anomalies than their male counterparts in South-South Nigeria.

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