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Short Communication

Dermatoglyphics loop pattern frequency and percentage on the toes of Nigerian in Hausa ethnic groups

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The Hausa ethnic group is in the northern part of Nigeria. Studies into their dermatoglyphic pattern are limited. The loop is a dermatoglyphic pattern with a tri radius. Penrose and loesch (1969) stated that loops are classified according to the region in which they lie and also by the direction of their cores which may be peripheral or central. 222 males and 135 females' samples using the ink procedure were used for the research, all of the Hausa ethnic group of Nigeria. It was reserved that the toes. The loops were most abundant in the Hallucal region in both sexes and both feet. Loop patterns on the toes were greatest in the females (44.4%) on the left foot toes. They were least distributed on the little toe in males (9.0%). They were also predominantly distributed on the left middle toes in females. They are more loops on the left hallux of the females in the Hausa ethnic group of Nigeria.

Keywords: Cores, Hallux, Loops, Nigeria, Toes.

INTRODUCTION

Faulds recognized dermatoglyphic patterns and their stability throughout life, once development begins at the 3rd week of embryonic life. Environmental factors such as chemical agent's infection etc do not affect the extremities after the 1st trimester of pregnancy. The loop has a tri-radius. A tri-radius is a point where (three dermal ridges radiate from in varying directions forming an angle of approximately 120 with one another.

Jantz (1977) – tried to show that the tri-radius increases from west to east in Sub-Saharan African

Penrose and Loesch – (1969) stated that loops are classified according to the regions in which they lie and also by the directions of their cores which may be peripheral or central.

MATERIALS AND METHODS

A cross-sectional survey of 357 persons was carried out. 222 were males, 135 were females. The ink procedure by Cummins and Midlo was used to collect samples from the sole. Percentage frequency of Loops and distribution was analyzed thus:

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countries like Nigeria.

Table 1. Shows numerical distribution of loop pattern on the toes

| | | NO. OF SAMPLE | I | II | III | IV | V |
|--------|---|---------------|----|----|-----|----|----|
| MALE | L | 222 | 77 | 50 | 52 | 37 | 20 |
| | R | 222 | 81 | 56 | 46 | 37 | 20 |
| FEMALE | L | 135 | 60 | 38 | 37 | 27 | 20 |
| | R | 135 | 50 | 36 | 28 | 22 | 20 |

Table 2. Shows percentage frequencies of loop patterns on the toe

| | | NO. OF SAMPLE | I | II | III | IV | V |
|--------|---|---------------|-------|-------|------|------|------|
| MALE | L | 222 | 34.7% | 22.5% | 23.4 | 16.7 | 9.0 |
| | R | 222 | 36.5% | 20.2% | 20.7 | 16.7 | 9.0 |
| FEMALE | L | 135 | 44.4 | 28.1 | 27.7 | 20.0 | 14.8 |
| | R | 135 | 37.0 | 26.7 | 20.7 | 16.3 | 14.8 |

RESULTS AND DISCUSSION

The loop poses a triradius and in abundance in all the toes of the feet. The sample size of 222 males and 135 females was used. Table 1 – illustrates the numerical distribution of the loop patterns on the toes. The Hallucal region had the highest frequency of distribution in both sexes. The right Hallucal showed the highest frequency distribution. The least distribution was on the little toe (digiti minim) in both sexes. The second toe was the next highest frequency in both sexes. The left had the highest in males. The percentage frequency and loop pattern was greater in female subjects than in males.

This distribution is in line with observation made by Komatz and Ohahiro (1980), that deficiency or excess Sex chromosome particularly the x- chromosome affect the number of ridges in hallucal from pattern. This is so because female have an extra x- chromosome than the males. An increase in the number of x- chromosomes is accompanied by an increase in the number of ridges. Loeseh and skrinjaru (1979) carried out a study on the percentage frequency of loop patterns classified on the proximal and distal sole in a simple school children population from the town zagneb. These workers observe a greater distribution of loop patterns in males than females. The result obtained in this research work tally with work done by other researchers in southern Nigeria.

CONCLUSION

There exist significant differences in the percentage frequencies in both sexes and both left and right feet. This research work states the loop patterns in the Hausa ethnic group of Nigeria.

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