CHAPTER-VI

SUMMARY

AND

CONCLUSIONS

Page No. 80-83
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In the present study rolled fingerprints of 800 individuals belonging to four different Indian populations i.e. Jat Sikhs, Scheduled caste, Brahmins and Rajputs were analyzed for systematic study of epidermal ridge minutiae and determination of sex of an individual from the fingerprint. The results are summarised as follow:

1. The distribution of basic patterns among male and female Jat Sikhs exhibits the highest frequency for loops and least frequency for composites. In case of females the loops and whorls are having greater frequency than males whereas the pattern composites and arches were having lesser frequency as compared to males.

2. The distribution frequencies of various epidermal ridge minutiae shows that in right and left hand of male and female Jat Sikhs Bifurcation and Ending Ridges shows the highest frequency and Trifurcation shows the least frequency. The frequency of distribution was greater in males as compared to females in both the hands.

3. The mean ridge density was 24.62 ridges/cm square in males, and observed ridge density in females was 28.93 ridges/cm square. Test of significance reveals a significant variation in the density of ridges between the male and female Jat Sikhs.
4. The distribution of basic patterns among male and female Rajputs exhibits the highest frequency for loops. Composites showed the least frequency. Females were having greater frequency of loops and lesser frequency of composites than males.

5. The distribution frequencies of various epidermal ridge minutiae showed that in right and left hand of male and female Rajputs, the Bifurcation and Ending Ridges is the highest and Bridge types the least. The frequency of distribution was lesser in males as compared to the females.

6. The mean ridge density is 23.45 ridges/cm square in males, and 29.62 ridges/cm square in the females of Rajputs community.

7. The distribution of basic patterns among males and females of Scheduled Caste shows the highest frequency for loops while composites shows the least frequency. In females the loops were having greater frequency while composites were having lesser frequency as compared to males.

8. The distribution frequencies of epidermal ridge minutiae shows that in left and right hand of Scheduled Caste females the Ending ridges shows the highest frequency and Trifurcation shows the least frequency. In case of males bifurcation shows the greater frequency whereas Ending ridge was having lesser frequency as compared to females.

9. The mean ridge density was 26.48 ridges/cm square for males and 30.18 ridges/cm square for females in Scheduled Caste.
10. The distribution of basic patterns among male and female Brahmins shows the highest frequency for loops while composites were having least frequency. In female the loops were having greater frequency than male Brahmins. It is also noteworthy that no Composites pattern was observed in females and accidental pattern was also found to be absent in this population in both the sexes.

11. The distribution frequencies of various epidermal ridge minutiae shows that in left and right hand of male and female Brahmins the Bifurcation shows the highest frequency and Trifurcation shows the least frequency. While the frequency of distribution was greater in males as compared to females in both the hands.

12. The mean ridge density was 22.50 ridges/ cm square for males, while it was 27.34 ridges/ cm square for females of Brahmins.

13. The comparison of the results of each population with other populations shows that there were no significant variations among the distribution frequencies of various basic patterns and epidermal ridge minutiae in left and right hand of both the sexes.

14. Amongst the various epidermal ridge minutiae Bifurcation is the most commonest and Trifurcation was least present. The ridge minutiae are the most prevalent on the lower side of the print.
15. The mean ridge density count can serve as a useful parameter for the sex determination in fingerprint analysis.

16. Type of pattern, location, distribution of different fingerprints characteristics and mean ridge density can be utilized in analysis for comparison and sex determination.