

## An Observational Study on Prakruthi and Dactylography

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### Abstract

**Background:** Ayurveda differs from other medical sciences by virtue of its unique concepts, independent ways of diagnosis and treatment. The prime aim of Ayurveda is two fold, i.e., maintaining health of the healthy individual and curing the diseases of diseased person. Determination of Prakruthi in newborn stage helps to differentiate the baby from other children by knowing peculiar characters. It also helps to maintain the health through out the life span, by proper measures. Hence, Charaka considered Prakruthi examination, as the first points of investigations regarding the patients.

**Aims and objective:** To evaluate the relation between Prakruthi and Dactylography.

**Materials and Methods:** 150 subjects within age group of 18-30 years were selected and given with questionnaires for Shareerika Prakruthi assessment and their 10 fingerprints were obtained through rolled method.

**Discussion & Conclusion:** A healthy individual is born out of normal Sukra, Artava, Atma, Prakruthi and various Vikaras and the predominance of Dosha at the time of conception determines the Prakruthi of the individual. No individual is alike another; all are different with respect to their own characteristic features. A fingerprint is the pattern on the inside of the finger in the area between the tip and the first joint and stays the same from the day of a person's birth to the day they die. On the basis of observation it is found that Kapha Dosha shows less variation were loop being the most repeated fingerprint pattern, whereas Vata Dosha shows maximum variation and Pitta Doshain between the two.

**Keywords:** Prakruthi; Dactylography; Fingerprint pattern; Ridge density.

## INTRODUCTION

Prakruthi in reference to the present study has been used with meaning "Swabhava" or

nature of the individual, which covers the physical, social, mental and spiritual aspects of life, which are responsible for maintenance of physiological activities of our body.<sup>1</sup> Sama Dosha is considered as Sama Prakruthi, in which Dosha are in state of equilibrium. Others are not termed as Prakruthi but called as Vatala, Pittala and Shleshmala (and not Vata Prakruthi etc). Charaka considers Prakruthi as normal state hence describes Sama as only Prakruthi and as per some other Acharyas Dosha is elevated (Utkata) but within normal limits.

In any Prakruthi, Dosha are elevated but well tolerated and do not cause abnormality. Prakruthi of the child to be born is formed by the

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state of Doshas in the Shukra and Shonita of the parents at the time of fertilization providing three constitutions of single Dosha predominant.<sup>2</sup> These are Vata Prakruthi, Pitta Prakruthi and Kapha Prakruthi which are Heena, Madhyama and Uttam are pectively.<sup>3</sup>

Prakruthi determination of an individual plays an important role in the etiology of disease. If an individual of Vaatala Prakruthi exposes himself to Vata provoking factors in the form of Aahara Viharahe will be prone to Vaatika disease.<sup>4,5</sup> Establishing one's Prakruthi is necessary to separate one individual from the other. Based on the Prakruthi of a person, he is exposed to various diseases and the prognosis of his disease can be judged. Therefore for the diagnosis and treatment of the disease, determination of Prakruthi is a must. Ayurveda follows psychosomatic approach to the entire problem of health and disease. The Dosha Prakruthi mentioned in Ayurveda incorporates both the features of body and mind, thus represents the total psychosomatic constitution of man. Besides, Ayurveda presents a variety of psychic dispositions based on Manasa Prakruthi.<sup>6</sup>

Physical life of an individual is completely depends on his psychic life. Every cell of the body shows its own psychology. Hence human body is considered as psychosomatic part. There is no any separate period for psychological development of an individual. Soon after fertilization itself psychic organization goes hand-to-hand with the physical development.

Dactylography is the process of taking impressions of the pulp of the fingers and the thumbs on an unglazed white paper and examining them with a magnifying lens.<sup>7</sup> Finger prints are easily classified, as there are four different basic shapes of pattern arches, loops and whorls that are then subdivided according to things like the numbers of ridges between certain points in the pattern.

The study of ridge patterns present on the sole is especially called as podogram, whereas study of those ridges which are present exclusively on the fingertips and palms is called as dactylography.<sup>8</sup>

Based on ridge patterns, there are four types of fingerprints. They are Loops 65 %, Whorls 25%, Arch 7%, Composite 2 to 3%.

*Loop:* In this type ridges starts from one side, run in parallel lines and then curve backward to terminate in the same side. When these ridges start and end on the medial side of the finger tips then it is called as Ulnar Loops, whereas when it starts and

ends on the later side of the finger tip, it is termed as Radial Loop.

*Whorl:* In this type, the ridges follow a circular path. When there are multiple ridges running one around the other forming an oval or circular structure, the pattern is known as concentric. Sometimes single ridge running in spiral manner may also be observed.

*Arch:* In this type of fingerprints, the ridges starts from one side and after running upward, it takes downward course to end on the opposite side forming a curve or arch. When the ridge makes a wave like curve, the pattern is known as Plain Arch, whereas when there is a formation of acute angle at the curving point, the pattern is called as Tented Arch.

*Composite:* In this variety of fingerprints, there is a combination of more than one pattern of the ridges. It may be in the form of whorl and loop or two whorls or two loops or even may be whorls, arch and loops. In the Loops and whorls, the main pattern of ridge is surrounded by two series of divergent ridges termed as Type Lines. The point of outer most ridge which is nearest to the divergent type lines is called as Delta and the central point of the ridge pattern is known as Core. Hence in case of loops, the core is the distal most point of the inner most ridge from the delta and in case of whorls, there are two deltas one on each side. Arches have no delta.<sup>9</sup>

*For assessment of fingerprint pattern:* The files of Ten Fingerprint Cards (TFC) of 150 subjects aged between 18-30 years are prepared. Fingers of the subjects (which are cleaned with tap water and soap and dried) will be rolled on the forensic fingerprint pads (such that the ink will be applied to the tips evenly by rolling the thumbs towards the subject's body and other fingers rolled away from the body i.e., thumb in fingers out method). Similarly rolled impressions of ten fingers of each subject will be obtained on the TFC in the allotted space for the fingers. The fingerprint ridges and ridge characteristics of ten fingers on TFCs will be observed under a fingerprint magnifier. A square of 5mm×5mm (25mm<sup>2</sup>) drawn on a transparent sheet in which ridge count will be observed within this square only; where as pattern of the fingerprints will be observed on the basis of total impression.<sup>10</sup>

#### *Aims and Objective*

To evaluate the relation between Prakruthi and Dactylography.

## **MATERIALS AND METHODS**

150 subjects within age group of 18-30 years

were selected and given with questionnaires for Shareerika Prakruthi assessment and their 10 fingerprints were obtained through rolled method.

## RESULT

*Vata* is having *ChalaGuna*, and shows more variation in fingerprint pattern hence no strong relation with any of the particular fingerprint pattern. *Pitta* is having *Sara Guna* which may contribute to the minimum variation shown in relation with fingerprint pattern (Arch and Whorl pattern), thus having a strong relation with it. *Kapha* is having *Sthira Guna* which may be the reason for showing less variation in the fingerprint pattern (Loop pattern) and hence very strong relation with the same. From this it is clear that there is significant relation between *Shareerika Prakruthi* and *Dactylography*.

## DISCUSSION

Patients were categorised based on Prakruthi. It was found that among 150 patients, 50 patients belong to Vata Prakruthi, 50 patients belong to Pitta Prakruthi and 50 patients belong to Kapha Prakruthi. Among 150 patients, 35 (23.3%) patients were male and 115 (76.7%) were females. Based on religion, 137 (91.3%) were Hindus, 2 (1.3%) were Christians and 11 (7.3%) were Muslims. Based on diet, 60 (40%) were vegetarians and 90 (60%) were

following mixed diet.

When right thumb impression was observed on the basis of fingerprint pattern, it was found that, among Vata Prakruthi 60% subjects are with loop pattern, among Pitta Prakruthi 60% subjects shows whorl pattern and among Kapha Prakruthi 64% subjects shows loop pattern. In right index, among Vata Prakruthi 48% subjects shows loop pattern, among Pitta Prakruthi 52% subjects with whorl pattern and among Kapha Prakruthi, 60% shows loop pattern. In right middle, among Vata Prakruthi 72% subjects were loop pattern, among Pitta Prakruthi 80% subjects were loop pattern and among Kapha Prakruthi 82% subjects were loop pattern. In right ring, among Vata Prakruthi 64% subjects were whorl pattern, among Pitta Prakruthi 58% subjects were loop pattern and among Kapha Prakruthi 54% were loop pattern. In right little, among Vata Prakruthi 82% subjects were loop pattern, among Pitta Prakruthi 90% subjects were loop pattern and among Kapha Prakruthi 80% subjects were loop pattern. In left thumb, among Vata Prakruthi 48% subjects were whorl pattern, among Pitta Prakruthi 60% subjects were whorl pattern and Kapha Prakruthi 76% subjects were loop pattern. In left index, among Vata Prakruthi 42% subjects were loop and 42% subjects were whorl pattern, among Pitta Prakruthi 44% subjects were arch pattern, and among Kapha Prakruthi 50% subjects were loop pattern. In left middle, among Vata Prakruthi 56%

Table 1: Prakruthi & Right Finger Print Pattern (%)

Prakruthi	Pattern	Right Finger Print Pattern (%)				
		Thumb	Index	Middle	Ring	Little
Vata	Arch	6.0	6.0	6.0	2.0	-
	Loop	60.0	48.0	72.0	34.0	82.0
	Whorl	34.0	46.0	22.0	64.0	18.0
	Total	100.0	100.0	100.0	100.0	100.0
Pitta	Arch	-	10.0	4.0	-	-
	Loop	40.0	38.0	80.0	58.0	90.0
	Whorl	60.0	52.0	16.0	42.0	10.0
	Total	100.0	100.0	100.0	100.0	100.0
Kapha	Arch	2.0	14.0	6.0	4.0	2.0
	Loop	64.0	60.0	82.0	54.0	80.0
	Whorl	34.0	26.0	12.0	42.0	18.0
	Total	100.0	100.0	100.0	100.0	100.0

**Table 2:** Prakruthi & Left Finger Print Pattern (%)

Prakruthi	Pattern	Left Finger Print Pattern (%)				
		Thumb	Index	Middle	Ring	Little
Vata	Arch	6.0	16.0	8.0	4.0	4.0
	Loop	46.0	42.0	56.0	40.0	70.0
	Whorl	48.0	42.0	36.0	56.0	26.0
	Total	100.0	100.0	100.0	100.0	100.0
Pitta	Arch	2.0	44.0	10.0	-	2.0
	Loop	38.0	26.0	80.0	66.0	86.0
	Whorl	60.0	30.0	10.0	34.0	12.0
	Total	100.0	100.0	100.0	100.0	100.0
Kapha	Arch	2.0	14.0	8.0	6.0	6.0
	Loop	76.0	50.0	66.0	50.0	80.0
	Whorl	22.0	36.0	26.0	44.0	14.0
	Total	6.0	100.0	100.0	100.0	100.0

subjects were loop, among Pitta Prakruthi 80% subjects were loop and among Kapha Prakruthi 66% subjects were loop pattern. In left ring, among Vata Prakruthi 56% subjects were whorl, among Pitta Prakruthi 66% subjects were loop, and among Kapha Prakruthi 50% subjects were loop. In left little, among Vata Prakruthi 70% subjects were loop, among Pitta Prakruthi 86% subjects were loop and among Kapha Prakruthi 80% subjects were loop pattern.

## CONCLUSION

Considering fingerprint pattern, Vata Prakruthi is more prone to show different fingerprint patterns because of its Chala Guna, due to Sthira Guna of Kapha least variations in patterns and Pitta in between the two. From above observations, it is clear that Kapha Dosha shows less variation were loop being the most repeated fingerprint pattern, whereas Vata Dosha shows maximum variation and Pitta Dosha in between the two.

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