



“To Determine Predominant Lip Print Pattern Among the People of Madhya Pradesh, India”

KEYWORDS

Cheiloscopy, Madhya Pradesh Population, Lip Prints, Reticular Type. Forensic Science.

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ABSTRACT

Physical surface of the lip has many altitudes and impression forming a characteristic pattern called lip prints, examination of which is referred to as Queiloscopy or Cheiloscopy, this is unique for individuals like the finger prints. This study is taken up to determine the predominant lip print pattern type in the population of Madhya Pradesh state which is in India. It includes 100 male and 100 female subjects of Madhya Pradesh origin and currently staying, age group between 18 to 40. The middle portion of lip print about 2cm on the both side of labial frenum of lower lip and upper lip was taken as the study area. This portion most common as a patent as well as latent impression on the exhibit recovered from the crime scene. The non-glossy lipstick was uniformly applied on the lip and then the print was taken on a white bond paper. These prints were studied classified according to Tsuchihashi's classification of Type long vertical (I), Short vertical (I'), Branched grooves (II), Intersecting grooves (III), Reticular grooves (IV) and other pattern (V). The further analysis was carried out on this classification and find out the predominant lip print pattern among the people of Madhya Pradesh State.

Introduction:

The grooves present on the human lips are unique and can be utilized to individualization of the person. The study of these grooves or furrows present on the red part or the vermilion border of the human lips is known as Cheiloscopy [1]. This biological phenomenon was first noted by anthropologists. R. Fischer was the first to describe it in 1902. [2] In Forensic investigation, Cheiloscopy has been used to identify criminals. [3-4] Yasuo Tsuchihashi in 1974 published a study on the lip print patterns of Japanese people. The lip prints were classified into six types, according to the shape and course of grooves: [5] **Type I:** Clear-cut grooves running vertically across the lip **Type I':** The grooves are straight but disappear half-way instead of covering the entire breadth of the lip. **Type II:** The grooves fork in their course **Type III:** The grooves intersect **Type IV:** The grooves are reticular **Type V:** The grooves do not fall into any of the types I to IV and cannot be differentiated morphologically. The previous study was conducted on Maharashtra Population to determine the predominant pattern of Maharashtra community in 2012 [9].

Materials:-

1. Lipstick of a bright red color and non-glossy
2. Scissors
3. White bond paper
4. Magnifying Glass
5. Lip Print Collection Format

The subjects were 100 males and 100 females whose families were origins from madhya pradesh with age group of 18 to 40 years. The subjects were not suffering from any disease or deformities of lips.

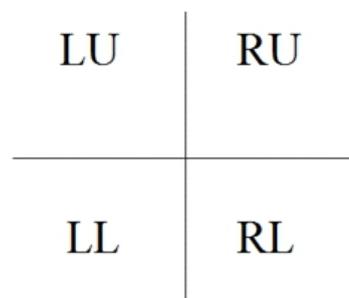
Methods:-

In this paper all subject asked to open the mouth and put a thin consistent layer of non-glossy lipstick was applied on lip with a single stroke. The subject was asked to open the mouth slightly, and to keep the mouth stable during the procedure. The subject was asked to gently rub his/her lips together to spread the lipstick evenly. The one corner of white bond paper was gently kept in corner of the lips with low pressure for few seconds and moving from end to end corner of the lips and lifted from the lip, avoiding any smudging of the print.

The middle 2cm portion on the both side of labial frenum the lower lip and upper lip was marked on the print with a pencil, which was the area to be studied which happens to be most common as a latent impression on the exhibit recovered from the crime scene. This part was further divided along the centre to form left upper (LU): right upper lip (RU): left lower lip (LL): right lower lip (RL) quadrants (Artwork:- 1 & 2). The predominant type of grooves in each quadrant was noted. The percentage of each type of lip print was tabulated.



Artwork-1

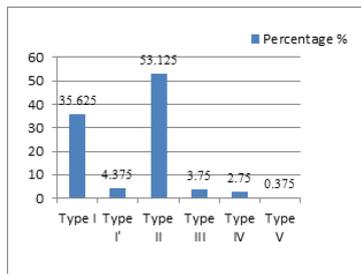


Artwork-2

Result:-

The result is in tabulated format and calculated each lip print pattern percentage. See Table:-1

Sr. No.	Types of Lip Print Pattern	LU	RU	LL	RL	Total	Percent age %
1	Type-I	82	66	73	64	285	35.625
2.	Type-I'	5	8	8	14	35	4.375
3.	Type-II	100	108	107	110	425	53.125
4.	Type-III	4	12	8	6	30	3.75
5.	Type-IV	8	5	4	5	22	2.75
6.	Type-V	1	1	0	1	3	0.375



Conclusion & Discussion:-

It was concluded that Type I' and Type II lip pattern were the most frequently observed in madhya pradesh population and in both the quadrants. Other works on Indian subjects have yielded varying results. Sivapathasundharam, Prakash and Sivakumar studied the lip prints of Indo-Dravidian population and noted that Type III was predominant [7]. Manipady compared Indian and Chinese individuals and found that the incidence of Type II was the highest among Indians. These studies reveal that dominant lip prints pattern among the people of madhya pradesh is Type II (Table:-1). Cheiloscopy is a relatively new field among the large number of identification tools available to the forensic expert. Work on this topic has already arouse useful information such as that lip prints are unique to an individual and can be used to fix the identity of a person; that they remain stable over time and that lip prints show gender differences. [6, 8, 9]. In this study can be utilized in investigation department to mesh out the suspect from genuine person in criminal cases through lip print analysis. Such as forensic expert recovered lip print from crime scene in that case having different state suspect persons, in this recovered lip print has a branch lip pattern so they can narrow down the investigation in respective of dominant lip print pattern state suspect person.

Future Scope:- Same Study can be perform on different state population of India and reveal it's dominate lip print pattern which will be helpful in criminal investigation.

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