ROLE OF LIP PRINTS IN CRIMINAL IDENTIFICATION

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ABSTRACT

Background: In our hectic pursuit to unlock mysteries in daily life, we resort to accurate identification of individuals, which plays increasingly vital role in forensic investigations. Lip prints have an important role in crime investigation and criminal identification. The objective of this review is to highlight the importance and the significance of lip prints and how it can be used as an additional tool besides fingerprints for personal identification and sex determination. Materials and Methods: Reachable materials can be used for lifting lip prints, including colored lipstick and Cellophane tape. They were applied on a number of subjects from both sexes. The subjects were asked to press their lips on the sticky part of the tape. Afterwards, all samples were coded and classified. Results: Macrostructures of the lips including five distinct features, specifically: the size of the lips, the shape of the oral fissure, upper and lower vermilion borders and protrusion of lips are age and environmentally stable. So they can be potentially used for the purpose of personal identification. It has also been confirmed that lip prints recover after encountering alterations such as trauma, inflammation, and diseases. Conclusion: lip prints are unique for each and every individual and sex plays a fundamental role in the distribution of lip prints among males and females.

Key words: Forensic Science, human identification, Cheiloscopy, lip prints, criminal investigations, Suzuki and Tsuchihashi’s classification.

INTRODUCTION

Cheiloscopy is a dental identification method used in criminalistics and law, based on matching lip traces with lip prints of known subjects [1]. Lip patterns including the grooves and the furrows are distinct and arise at the 6th month of intrauterine life [2]. Despite, lip patterns may change by age, nevertheless, the macrostructures including: size, shape, vermilion borders and protrusion of lips are stable. Thus, they can be used as a useful tool for personal identification [3]. In 1971, Kazuo Suzuki and Yasuo Tsuchihashi have classified lip patterns into six types as shown in figure 1 [4], which were later shown to have variable distribution among different population groups. The present article was aimed to review the studies performed on the lip prints among different population groups and highlight the role that lip prints can play in personal and criminal identification.

METHODS

Two methods are commonly used for lip print studies: Lip stick Method and Card impression Method. In the first method a colored lip stick is spread evenly on both upper and lower lips and then pressed on cellophane tape or bond paper. In the second method, subjects are asked to press their lips against a card and to make the latent lip print visible, black magnetic detection powder is used.

RESULTS

No identical lip prints were detected between different individuals even in identical twins [5]. Lip pattern type I and type II were the most frequently encountered patterns among a group of 200 Indian students and there was a statistical significant difference in the distribution of different lip patterns between males and females [6]. Additionally, analysis of lip print patterns among family members has shown that no two lip prints are the same [7].

REFERENCES


Figure 1: Classification of patterns of lip prints by Suzuki and Tsuchihashi [4].

Figure 2: The frame and the setting used to discern the part of the lip print used to define the pattern [5].

Figure 3: Lip prints differences in two identical twins [5].

CONCLUSIONS

The results demonstrated the fact that lip prints are considered to be individualistic, each possessing their own unique characteristics and linked to a certain individual throughout his life. Therefore, it is wise to suggest that lip prints can and should be included in the forensic sciences arena as a lawful means of identifying people and relating them to any criminal activity.