ESTIMATION OF STATURE FROM MEASUREMENTS OF HANDS AND FEET IN KOLLAM REGION

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ABSTRACT

BACKGROUND
The estimation of stature is considered to be an important assessment in the identification of unknown human remains. Assessment of height from different body parts is an area of interest to anatomist, anthropologist and to forensic expert.

OBJECTIVES
1. The purpose of the present study is to analyze the anthropometric relationships between dimensions of hands and feet with stature and to devise regression formulae to estimate stature from these dimensions.
2. The study examines the relationship between stature and dimensions of hands and feet among Kollam population.

METHOD
Length and breadth of hand and foot of both sides and stature of 120 subjects comprising of 60 males and 60 females ranging in age group from 18 to 35 years were measured separately on left and right side of each individual with a digital sliding calipers and stadiometer respectively.

CONCLUSION
The correlation coefficient the linear and multiple regression equation for stature estimation will be calculated separately for both males and females.

KEYWORDS
Stature, Hand length, Hand breadth, Foot Length, Foot Breadth, Sliding Calipers.


INTRODUCTION
Stature is considered as one of the important parameters for personal identification in forensic anthropology. It provides an insight into various features of a population including nutrition, health and genetics. With the increasing frequency of road and train accidents, floods, fire, deliberate mutilation, disfigurement and natural disasters, there is need for such studies which help to identify the deceased from fragmentary and dismembered human remains. In such situations measurements of hands and feet provide good approximation about the height of a person.

The stature prediction occupies relatively a central position both in the anthropological research and in the identification necessitated by the medical jurisprudence or by the medicolegal expert. The use of anthropometry in the field of forensic medicine dates back to 1882 when Alphonso Bertillon invented a system for criminal identification based on Anthropometry measurements.

Rutthäuser reported a highly significant degree of correlation between height and foot length in African children. She showed that the estimation of stature from foot lengths has confidence limits of the same order as those found for estimation of stature from long bones in adults.

A regression analysis study by Saxena SK was based on the measurement of hand length, hand breadth and sole length in adult Nigerian males between the ages of 20–30 years. The results showed that there is significant correlation between the stature of an individual and the above measurements. Similar study was carried out by Sanli SG et al for stature estimation and they used multiple linear regression models and reported this method to be more precise in predicting stature.

The need for the present study is because of the paucity of data that allow reconstruction of stature from the dimensions of hands and feet. One such attempt is being made by us at Travancore Medical College, Kollam, Kerala by comparing the said details of around 300 Medical Students from Kollam region.

REFERENCES
