

UNIVERSITI TEKNOLOGI MARA

**STATURE, WEIGHT, AND SEX
ESTIMATION USING HAND AND
HANDPRINT DIMENSIONS AMONG
MALAYSIAN MIXED POPULATION**

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ABSTRACT

Forensic anthropology is the study of human remains for the medicolegal purpose of establishing identity and techniques in archaeology to solve criminal cases. Anthropometry is a series of systematic body measurements, its component parts and relative dimensions such as height, body weight, pelvic bones, skull and so on. These information are useful for biological profile which plays an important role in personal identification. This research was conducted to estimate the stature, body weight and sex of an individual using hand and handprint dimensions among Malaysian mixed population. A total of 400 subjects which consists of 200 male and 200 female were divided into three groups; male, female and pooled sample. Eight measurements were collected from the hands and its corresponding prints. Then, the data were analysed using simple linear and multiple regression analysis, discriminant analysis and independent sample t-test. The results showed that hand and handprint length has the highest correlation coefficient with stature whereas hand breadth has the strongest correlation with body weight. Nevertheless, for handprint measurements, handprint breadth and middle fingerprint length showed a possible indicator for weight estimation. In sex determination, there is a significant difference for all variables between male and female subjects where hand length, hand breadth, palm length, thumb and handprint length has a possible sex discriminator. More importantly, this research has proved that estimation of stature, weight and sex are possible using hand and handprint dimensions among Malaysian mixed population where all the formulae were derived from these analyses.

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