



Estimation of Height and Sex from Footprint Length among Dhimals from Darjeeling, West Bengal

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ABSTRACT Footprint length (FPL) is a valuable evidence in forensic investigation. The present study aimed to estimate height and sex from FPL (left and right sides) in adults. Participants were adults (53 men and 51 women) from Dhimal community in Darjeeling, West Bengal. Linear regression models were used to estimate height from FPL. Sectioning point (SP) values of FPL to estimate sex $[(\text{mean value in men} + \text{mean value in women})/2]$ was based on: men $>SP$, women $\leq SP$ values. Young adults (age: 28 and 27 years in men and women) had height (men: 164 cm, women: 154 cm) and FPL (left and right sides: men 25 cm, women 23 cm) that showed significant sex differences ($p < 0.001$). Correlation coefficients between height and FPL were high ($r > 0.95$, $p < 0.0001$). FPL-to-height ratio was fifteen percent. Linear regression models significantly estimated height and SP values showed reasonable agreement to estimate sex ($>65\%$).