

HAND ANTHROPOMETRY AND GRIP STRENGTH OF WOMEN WEAVERS IN HANDLOOM INDUSTRY OF LAKHIMPUR DISTRICT, ASSAM

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ABSTRACT

For designing the man-machine interface in an industry, it is essential to ensure the compatibility of man and machine to safeguard his health, safety, comfort and efficiency. Handloom weaving is dependent on manual labor; by and large the major contribution comes from women. The present study was conducted on women workers, who perform the activities in the handloom industry of Lakhimpur district of Assam. The objective of the study was to measure the hand anthropometry and the grip strength of women weavers while performing weaving activities on handloom. Various parameters observed were weight, height, time, body mass index (BMI), and hand anthropometry and grip strength. A sample of 40 women workers of Lakhimpur district Assam was selected for the study through multistage random sampling. Statistical analyses of the data are employed through frequency, percentage, mean, standard deviation, and critical difference and co-efficient of correlation. Mean values of anthropometric measurements for different hand dimensions did not show a wide variation within the range except hand circumference and hand depth. The present study was found to significantly differ from the reference value except some measurements as hand length and length of finger to crotch level. Maximum decrease in grip strength was found to be 10.46kg for right hand grip and 10.07kg for left hand grip while drawing the reed to and fro, and 6.62kg for both hands for throwing the shuttle where as minimum decrease in grip strength was found to 6.02kg for left hand, 5.32kg for right hand and 3.7kg for both hands while been getting.

KEYWORDS: Grip Strength, Hand Anthropometry, Handloom, Women workers