Comparison of Static Anthropometric Characteristics among Workers of Three Iranian Ethnic Groups

F. Sadeghi¹, A. R. Bahrami²* and A. Joneidi Jafari³

¹Occupational & Environmental Health Center, Ministry of Health, Treatment & Medical Education, Tehran, Iran
²Department of Occupational Health Engineering, Hamadan University of Medical Sciences, Hamadan, Iran
³Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran
E-mail: ¹<sadeghi@health.gov.ir>, ²<bahrami@umsha.ac.ir>, ³<a.jonidi@modares.ac.ir>

KEYWORDS Anthropometry. Iranian Workers. Ergonomics. Ethnicity Body Dimensions

ABSTRACT The objective of this study was to compare anthropometric characteristics of Iranian workers with three different ethnicities including Fars, Azeri and Arab. A total number of 3436 subjects aged ranging 20 to 60 years old were randomly selected as the sample. Overall, thirty-six body dimensions besides body weight were measured. The statistical indexes consisting of mean, standard deviation, 5th and 95th percentile values were tabulated for the various body dimensions. Analysis of variance (ANOVA) and post-hoc tests were performed to determine the significant differences among the mean value of body dimensions of study ethnics. The results indicated that there are significant differences in most of the dimensions among the three ethnic groups for both males and females (P-value<0.05). The post-hoc tests showed that Fars males have larger body size compared to the Arab and Azeri. In addition, Azeri females tends to have larger body. Azeri male and Fars female have the smallest body size compared to other ethnics. In conclusion, there is a significant morphological difference among the three Iranian ethnic groups with the same nation. Furthermore, there are various body dimension differences among different nations. Thus, considering the ethnicity factor while designing, for the Iranian population, is highly recommended.