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Investigating Relationship between Body Size and Physical Fitness Factors among University Students

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Abstract : Background: The objectives of this study was to investigate effect of anthropometric variables and body composition on physical capabilities among male and female students. Materials and Methods: The study had a descriptive correlation method. The statistical population consisted of all students of Islamic Azad University, Khomeinishahr Branch, from 2011 to 2013, which was about 7000 students. The statistical sample included 300 male and 300 female students who were randomly selected from among university students in proportion to frequency of students in each faculty. Descriptive statistical methods, t-test and Pearson correlation coefficient were used for data analysis. Results: Results of this research showed that body size of male students in the studied variables was more than that of female students ($p<0.05$). Moreover, there was significant difference between all the variables based on significance level of the table. Also, the results taken from the Pearson correlation of this study's variables showed a positive relationship between height and leg and hand length and sit-up, full-ups bar and vertical jump tests ($p<0/01$). Besides, there was a positive correlation between hand length, sit-up, full-ups bar and vertical jump tests. As far as tests of length of legs and vertical jump were concerned, a highly positive correlation was observed between them. Additionally, results of this study indicated a significant correlation at alpha level of 0.05 between age and height of the students; but, there was a negative correlation between age, sit-up and 1600-m tests ($p<0.05$). Conclusion: The results of this study indicated a relationship between size of weight, height, length of hands and legs and some physical fitness tests. Therefore, it is required to consider anthropometric factors in addition to gender and age while preparing norms of physical fitness since variables of height and length of hands also affect physical fitness evaluation.

Keywords : anthropometric variables, physical fitness factors, students, body composition
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