

Injuries Caused by Male Cyclists' Non-Compliance with Standardized Adjustment of Cycles

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Cycling is a popular sport and leisure activity that people of all ages enjoy all around the world. This study was aimed to assess the incidence of injuries to cyclists due to non-compliance with standardized bicycle adjustments. This cross-sectional study was carried out under the quantitative research method. The relationship between cycling measurements of cyclists and their injuries was measured and checked using the chi-square test. Fifty-five male cyclists (n=55) from four registered bicycle associations in the Colombo district were selected and data were collected through a questionnaire, and the "Digimizer" software was used to measure the cycle parameters and body angles. Buttock injuries (40%) are the most predominant among male bikers in the Colombo district, followed by back injuries (29.1%), knee injuries (16.4%), and neck injuries (14.5%). Furthermore, there was a significant association between injury types and whether or not conforming; to standard seat length ($p = 0.034$), to the length between seat and handlebar ($p = 0.320$), and from the standard cycle weight ($p = 0.014$). Moreover, the knee angle ($p = 0.035$), hip angles ($p = 0.040$), and trunk angles ($p = 0.041$) were found to have a significant association with injury type. There was a significant association between the joint pain and whether or not conforming to standard length ($p = 0.005$), and others were not. Moreover, it was concluded that seat length affects buttock injury, and most cyclists suffered buttock injuries, and there is a relationship between cycling parameter measurements for the occurrence of those injuries. The international body anthropometric measurements were 450 for the hip angle, 750 for the knee angle, the trunk angle is 1410. It is essential to purchase and operate bicycles built in accordance with international standards or to modify the measurements of bicycle parts to match the accepted standard values.

Keywords: Cycling, Injury, Incidence of Injuries, Standardized Bicycle Adjustment