

Core Stability Index for Healthy Young Sri Lankan Population

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Abstract : Core stability is one of the major determinants that contribute to preventing injuries, enhance performance, and improve quality of life of the human. Endurance of the four major muscle groups of the central 'core' of the human body is identified as the most reliable determinant of core stability amongst the other numerous causes which contribute to readily make one's core stability. This study aimed to develop a 'Core Stability Index' to confer a single value for an individual's core stability based on the four endurance test scores. Since it is possible that at least some of the test scores are not independent, possibility of constructing a single index using the multivariate method exploratory factor analysis was investigated in the study. The study sample was consisted of 400 healthy young individuals with the mean age of 23.74 ± 1.51 years and mean BMI (Body Mass Index) of 21.1 ± 4.18 . The correlation analysis revealed highly significant ($P < 0.0001$) correlations between test scores and thus construction an index using these highly inter related test scores using the technique factor analysis was justified. The mean values of all test scores were significantly different between males and females ($P < 0.0001$), and therefore two separate core stability indices were constructed for the two gender groups. Moreover, having eigen values 3.103 and 2.305 for males and females respectively, indicated one factor exists for all four test scores and thus a single factor based index was constructed. The 95% reference intervals constructed using the index scores were -1.64 to 2.00 and -1.56 to 2.29 for males and females respectively. These intervals can effectively be used to diagnose those who need improvement in core stability. The practitioners should find that with a single value measure, they could be more consistent among themselves.

Keywords : construction of indices, endurance test scores, muscle endurance, quality of life

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