A Preliminary Study of Distribution of Somatotypes among Sri Lankan Male Elite Runners

A.M. Weerasinghe[1], B.H.W.M.G.T. Wijethilake[1], A. Ratnayake[2], H.J. Suraweera[2] and J.K. Dissanayake[1]

[1]Department of Anatomy, Faculty of Medicine, University of Peradeniya
[2]Sports Medicine Unit, Teaching Hospital, Peradeniya

Physical performance is correlated with the body shape and is also associated with the success in sports performance. The genetic makeup dictates our unique body shape and physiological tendencies. Most successful athlete should have a physical structure best suited for it. Studies of high level performances have clearly indicated the association between somatotype and performance.

An individual's somatotype can be defined by three components namely endomorphy, mesomorphy and ectomorphy. The Heath - Carter method of somatotyping is the most commonly used method to assess somatotype at present. The purpose of this study was to describe the body somatotypes of elite male Sri Lankan short distance runners (SD), middle distance runners (MD), long distance runners (LD) and to compare the three event groups in terms of somatotypes.

The subjects included 16 male athletes who attended the Sports Medicine clinic at Teaching hospital Peradeniya during the period from July 2011 to September 2011. Ten morphological body measurements were taken on a sample of 02 SD (100 m and 200 m), 07 MD (800 m, 1500 m and 3000 m) and 07 LD (5000 m, 10000 m and Marathon) with a mean age of 23.5 years. Somatotypes were calculated according to the standard Carter and Heath (2002) method.

Mean somatotypes were 2-3.6-3, 1.8-3-3.6, and 1.8-3-3.4 in SD, MD and LD respectively. Mesomorphic-ectomorph body type (50.0%) was found to be dominant among all runners followed by Balanced-mesomorphic body type (18.75%), whereas the endomorphic component was the least marked. Commonest somatotype among LD was mesomorphic-ectomorph (71.43%) body type. Distribution of somatotype among MD runners showed a mixed pattern with Mesomorphic-ectomorph, Balanced-mesomorph and Balanced-ectomorph body types (28.57% each). Adequate sample size is necessary to comment on the distribution of somatotype among SD.