ISSN 0970-9274
JOURNAL OF HUMAN ECOLOGY
International, Interdisciplinary Journal of Man – Environment Relationship

PRINT: ISSN 0970-9274 ONLINE: 2456-6608
J. Hum. Ecol., 21(3): 227-230 (2007)
DOI: 10.31901/24566608.2007/21.03.11

Skeletal Frame Size of Spitian Children

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KEYWORDS Growth. Spitian. Skeletal Frame. Humerus Bicondylar Diameter

ABSTRACT The present study aims at elucidating the age changes in the frame size from skeletal diameters of boys inhabiting Spiti valley (Himachal Pradesh) of the North Western Himalayas, India. The present cross sectional study has been conducted on Spitian boys, ranging in age from 5 to 20 years. Skeletal measurements of humerus bicondylar diameter, femur bicondylar diameter, biacromial diameter and bicristal diameter were taken on 636 subjects during 1996-1998 from various areas of Spiti valley. Metropolitan Life Insurance Company (1983) gave its own standards for American men on the basis of humerus bicondylar diameter according to their body size (height). The frame size was termed as 'small' (<6.4 cm), 'medium' (6.4 to 7.2 cm) and 'large' (> 7.2 cm). According to the Metropolitan Life Insurance Company standards also, the Spitian young adults between 18 to 20 years can be designated as on the 'borderline' between the small and medium frame size. Comparison of the mean values of humerus and femur bicondylar diameters expressed in percentage of their adult values amongst themselves indicate that it is femur bicondylar diameter which surpasses in maturity to humerus bicondylar diameter up to 15 years. However, after the age of 15 years, humerus bicondylar diameter is ahead of femur bicondylar diameter in its maturity status.