

Age-related Changes in Handgrip Strength among Healthy Indian Males and Females Aged 6-25 years

Shyamal Koley^{1*} and Sheri Melton²

*¹Department of Sports Medicine and Physiotherapy, Guru Nanak Dev University,
Amritsar 143 005, Punjab, India*

*²West Chester University of Pennsylvania, Kinesiology Department, West Chester,
PA, 19383 USA*

KEYWORDS Hand Grip Strength. Anthropometric Variables

ABSTRACT The purpose of the present study was to investigate the trend of handgrip strength and to assess the normative values of this trait in randomly selected 747 unrelated, normal, healthy Indian males (325 right hand and 92 left hand dominant) and females (297 right hand and 33 left hand dominant) aged 6 - 25 years from different schools and Guru Nanak Dev University, Amritsar, Punjab, India. Three anthropometric measurements, viz. height, weight and BMI were carried out with standard techniques. Handgrip strength was measured using a standard adjustable digital handgrip dynamometer (Takei Scientific Instruments Co. LTD, Japan) at standing position with shoulder adducted and neutrally rotated and elbow in full extension. The findings of the present study indicated a gradual increment of both right and left handgrip strength from 6 to 23 years in males and from 6 to age 21 years in females. Statistically highly significant sex differences ($p < 0.001$) were found in right dominant ($t = 12.84$) and non-dominant ($t = 13.46$) handgrip strength, where males had higher mean values in all the anthropometric variables than females.