

Conference Abstract

DAY 1 15th September 2023 (Friday)

ORAL 1

2.00-3.30 pm

Scientific Session 4

Correlation of Carrying Angle, Hand Grip Strength and Subcutaneous Body Fat Percentage.**Lavanya K, Swapnali Shamkuwar, Vasudha Kulkarni**

Department of Anatomy, Akash Institute of Medical Sciences and Research Centre, Bengaluru

Email: lavanyak05072002@gmail.com

Background: The carrying angle is the angle of elbow when arm is fully extended and forearm is fully supinated. Hand grip strength is the ability of fingersto hold objects, which requires the proper functioning of the fingers, wrist, forearm, pre-scapular, and shoulder muscles. Subcutaneous body fatpercentage is the proportion of body fat located directly under the skin. Carrying angle, grip strength, and subcutaneous body fat percentagedetermine the static muscle endurance, bone strength, tendency for sarcopenic obesity. Thus there is need to establish association between theseparameters.

Aim: The present study is conducted to establish association between Carrying Angle, Hand grip Strength and Subcutaneous Body Fat Percentage.

Methods: A cross-sectional study was conducted on 80 participants, aged 18 to 30 years. The carrying angle was measured by a goniometer, grip strengthmeasured by a dynamometer, and subcutaneous fat percentage (Triceps skin fold thickness) was measured by skinfold callipers and mid armcircumference by measuring tape.

Result: Mean and standard deviation of all parameters were obtained according to gender group, laterality and age. The laterality and age group were compared using T test. The correlation between variables was established using ANOVA (Analysis of variance). p value < 0.05 was considered as statistically significant. Carrying angle, subcutaneous body fat percentage were inversely proportional to hand grip strength.

Conclusion: Cubitus valgus is associated with conditions like elbow ligament injuries, fractures, osteoarthritis and neuromuscular disorders. Cubitus varus isseen in conditions like congenital radial head dislocation or growth plate injuries. Evaluating the carrying angle can assist in diagnosing andmonitoring these conditions and determining the appropriate treatment approaches. The correlation between carrying angle, subcutaneous bodyfat percentage, hand grip strength is useful in identification and prevention of biomechanical alteration in sports activity.

Key words: Carrying Angle, Hand Grip Strength, Subcutaneous Body Fat Percentage.