

**PP 88**

**The relationship between core stability and physical performances in Army male rugby players: A single group interventional study**

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**Background:** Core stability is the ability to control the position and motion of the trunk over the pelvis. Core Stability Training (CST) is used in injury prevention, but more recently it is also being used to enhance sports performance. Rugby players require a high degree of physical performance and the testing can be valuable. The relationship between core endurance and physical performance in rugby players had not been evaluated before in Asia.

**Objective:** The purpose of this study was to identify relationships between core stability and physical performances (speed, upper limb power, lower limb power, agility) using 40 m sprint, vertical jump, 3 kg medicine ball put, agility T tests following a CST intervention in army male rugby players.

**Method:** Thirty-six players (mean±SD age, height, and body mass of 25.2±2.4 years, 171.7±6.6 cm, and 83.5±14.1 kg, respectively) of national army rugby pool were selected using a purposive sampling method and completed the performance testing before off-season conditioning. Subjects were tested for four physical performances and four core endurance tests (back extension, abdominal fatigue, and left and right bridge). Rugby players participated in the training which consisted of nine core strengthening exercises complementary to the usual training, three times per week for twelve weeks and tested at the end.

**Results:** A significant improvement was observed in all the physical performance variables ( $p < 0.05$ ) according to the paired t test. A positive linear correlation was found between the upper body power ( $p < 0.05$ ) and the total core endurance (sum of four core endurance) and no significant correlation found in other variables.

**Conclusion:** The results of this study suggest that the core stability training is necessary for optimal sport performance and additional research required to determine the role of core stability in rugby.