

# Assessment of Energy Intake, Macronutrient Intake and Body Composition of Inter Collegiate Level Wrestlers of Rohtak City of Haryana, India

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## ABSTRACT

**Introduction:** Wrestling is a demanding sport requiring athletes to maintain specific body weight and composition to meet competition standards, which many wrestlers fail to achieve.

**Aim:** This study assesses the energy intake, macronutrient profile, and body composition of collegiate wrestlers from Haryana, with an emphasis on potential issues related to weight management.

**Materials and Methods:** Fifteen collegiate wrestlers from Rohtak participated in this study. We conducted anthropometric measurements, including height, weight, and Body Mass Index (BMI), Lean Body Mass (LBM), Fat Mass (FM), and skinfold thickness. Dietary intake was evaluated using a 24-hour dietary recall method to determine Total Energy Intake (TEI) and the contributions of carbohydrates, proteins, and fats to the overall diet. Pearson correlation analysis was utilised to explore relationships among body composition measures and dietary intake variables.

**Results:** The mean TEI was  $5635.4 \pm 1754.62$  kcal. Mean carbohydrate intake was  $630.4 \pm 219.4$  g, and protein intake was

$244.9 \pm 73.15$  g, and fat intake was  $252 \pm 87.42$  g. The mean BMI of the wrestlers was  $26.63 \pm 2.43$  kg/m<sup>2</sup>, with a body fat percentage of  $15.44 \pm 4.69\%$ . Mean LBM was  $69.64 \pm 11.16$  kg, and mean FM was  $13.01 \pm 5.12$  kg. Significant correlations were found between body weight and fat intake ( $r=0.75$ ,  $p<0.01$ ). Fats contributed to 39.8% of TEI, while protein intake comprised only 18.03%. LBM exhibited a negative correlation with sugar intake ( $r=-0.585$ ,  $p<0.05$ ), whereas FM correlated positively with sugar intake ( $r=0.73$ ,  $p<0.01$ ) and negatively with total TEI from protein sources ( $r=-0.54$ ,  $p<0.05$ ).

**Conclusion:** Collegiate wrestlers from Haryana primarily rely on fats for energy, which may hinder effective weight management. Dietary adjustments are necessary to increase protein intake, optimise body composition, and enhance performance in competitive settings.

**Keywords:** Macronutrient profile, Weight management, Wrestling

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