

## Do you know body composition and dietary intake of combat sports athletes? A systematic review.

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### INTRODUCTION & AIM

Combat sports involve successive high-intensity, short-duration bouts (rounds) interspersed with brief rest periods, which gives them an intermittent nature. Athletes' body composition and dietary intake are closely linked to physiological demands and are key determinants of athletic performance. This study aimed to review the scientific literature on body composition, dietary intake and food consumption habits in male and female combat sport athletes, and to determine whether they met nutritional recommendations.

### METHOD



("Martial arts" OR "Boxing" OR "karate" OR "kickboxing" OR "jiu jitsu" OR "taekwondo" OR "judo" OR "muay thai") AND ("Feeding behavior" OR "dietary habit" OR "food consumption" OR "Diet") AND ("Anthropometry" OR "anthropometric characteristics" OR "anthropometric variables" OR "Body composition" OR "Skinfold Thickness")

Risk of bias was assessed using the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines and the Newcastle-Ottawa Scale (NOS).

### RESULTS & DISCUSSION

Combat sport athletes exhibit a lower body mass index (BMI) during competition periods compared to baseline periods, due to lower body mass and body fat percentage. Fat-free mass (FFM) remains similar in men and even increases slightly in women. However, the longitudinal studies included in the review reveal that combat sport athletes tend to reduce their lean mass before the competition as an acute weight loss strategy.

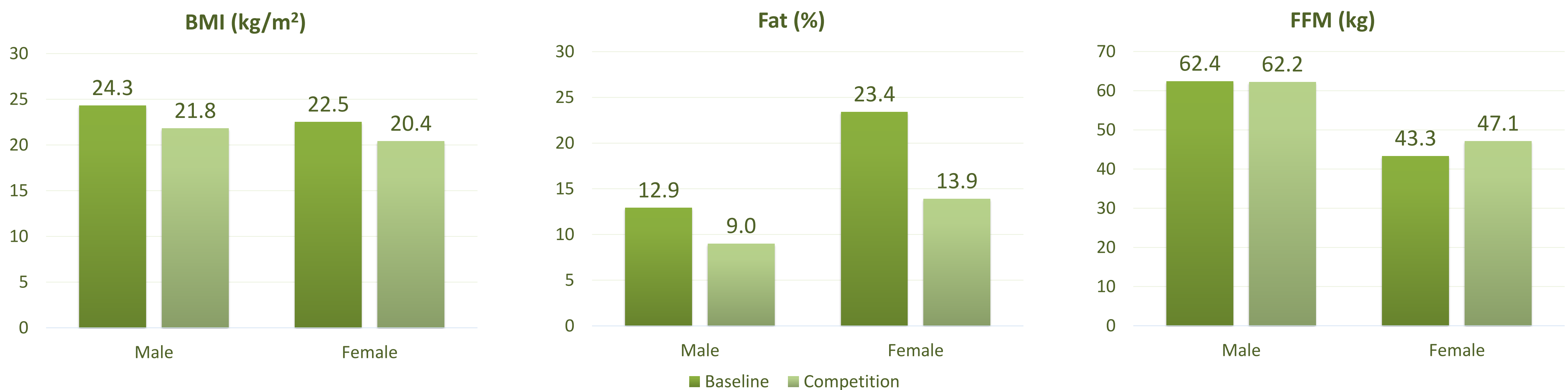


Figure 1. Body composition of combat sports athletes

Combat sport athletes report energy and carbohydrate (CHO) intakes below the official recommendations, both during baseline and competition periods. Energy and CHO intake is lower during competition periods, probably as a strategy for rapid weight loss.

Table 1. Dietary intake of combat sports athletes

	Time of the Season	Energy (kcal/kg)	CHO (g/kg)	Protein (g/kg)	Fats (%)
Recommended range	-	45 – 50	6 – 10	1.2 – 2	25 – 30
Mean Intake	Baseline	34.56	4.48	1.56	29.15
	Competition	31.65	3.95	1.41	30.14

### CONCLUSIONS

- Combat sports athletes tend to reduce their body weight prior to competitions.
- Combat sports athletes report energy and CHO intakes below the recommended range.
- Despite maintaining an adequate body composition, combat sports athletes tend to follow inadequate dietary patterns, especially during competitive periods, which may lead to LEA and negatively affect athletic performance.

### REFERENCES

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