

PHYSIOLOGICAL AND ANTHROPOMETRIC CHARACTERISTICS OF ELITE WOMEN RUGBY UNION PLAYERS

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Introduction

Since the first World Cup open to woman in 1991, rugby union is increasingly practiced, non-professionally, by female athletes. Yet, the knowledge of the physiological and anthropometric characteristics of women players is scarce (1) and, due to the evolution of this sport in the recent years, it is also dated. To fill in this gap, this descriptive study was aimed at providing normative data on selected, physiological and anthropometric variables in elite women players.

Methods

11 forwards (FW) and 11 backs (BK) from the Italian National team, regularly engaged in elite training and international competitions were tested. Body mass, stature, % body fat and lean body mass, maximum oxygen consumption and vertical jump height were measured. Mean and standard deviation were calculated in FW and BK and in positional subgroups (front row FW, back row FW, inside BK, outside BK) (2) and compared by t test ($p < 0.05$).

Results & Discussion

The athletes were 24 ± 4 years old, with a 9 ± 6 years playing experience. FW were significantly taller, heavier, had a larger lean mass, VO_{2max} and squat jump ability compared to BK. Front row FW were significantly taller, heavier, fatter and had a larger lean mass compared to back row FW. No differences were detected within BK.

group	#	mass (Kg)	height (m)	fat (%)	lean mass (Kg)	VO_{2max} ($l \cdot min^{-1}$)	SJ (cm)	CMJ (cm)
FW	11	$71 \pm 12^*$	$1.68 \pm 0.1^*$	24 ± 6	$53 \pm 5^*$	$3.0 \pm 0.4^*$	$26 \pm 4^*$	29 ± 3
BK	11	63 ± 6	1.63 ± 0.1	24 ± 4	47 ± 4	2.7 ± 0.5	24 ± 3	29 ± 4
FR FW	5	$79 \pm 14\%$	$1.71 \pm 0.1\%$	$28 \pm 6\%$	$56 \pm 5\%$	3.1 ± 0.3	25 ± 2	28 ± 2
BR FW	6	65 ± 5	1.64 ± 0.0	22 ± 6	51 ± 3	2.9 ± 0.4	27 ± 5	30 ± 4
I BK	6	64 ± 6	1.63 ± 0.1	26 ± 4	47 ± 4	2.8 ± 0.5	23 ± 3	29 ± 3
O BK	4	61 ± 7	1.63 ± 0.1	22 ± 4	48 ± 5	2.6 ± 0.3	24 ± 4	29 ± 5

* and § indicate, respectively, a significant difference vs BK and within FW subgroups.

Conclusion

In elite women players, role differences appear between forwards and backs and between forwards subgroups. This suggest that specificity in the physical requirements of rugby union in individual playing positions is present in women as well as in males playing at the international level

References

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