

Anthropometric, strength, session-RPE, and shoot performance evaluations in sub-elite male Italian basketball players

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In a previous study on young female basketball (1), grip strength resulted more related to shooting than physical size of players. Thus, the present study aimed to investigate the relationship between anthropometric characteristics, grip strength, and shooting performance in male basketball players. Anthropometric parameters (i.e., height, Ht; body mass, BM; body mass index, BMI; hand middle finger length, MFL; hand finger span, FS; and perimeter of fingers, PF) and handgrip (the best of three trials) were assessed in 10 sub-elite (*Serie B*) Italian male basketball players (22.2±4.1 yrs). Participants performed 10 free-throw shots before (BS) and after (AS) a training session. The session-RPE (2) was used to evaluate the training load. Pearson correlation coefficients ($p < .05$) were used to determine the relationships between anthropometric variables, handgrip and shooting performances. Handgrip performance resulted strongly related to all anthropometric measurements (Ht: $r = .83$, $p < .001$; BM: $r = .88$, $p < .001$; BMI: $r = .71$, $p = .022$; MFL: $r = .81$, $p < .001$; FS: $r = .82$, $p < .001$; PF: $r = .71$, $p = .023$). Except for BMI ($r = .42$, $p > .05$), significant negative relationships emerged between anthropometric parameters (Ht: $r = -.81$, $p < .001$; BM: $r = -.76$, $p = .012$; MFL: $r = -.82$, $p < .001$; FS: $r = -.82$, $p < .001$; PF: $r = -.70$, $p = .025$) and BS. Conversely, AS showed significant negative correlations only with respect to Bt ($r = -.69$, $p = .028$), MFL ($r = .71$, $p = .021$), and FS ($r = -.70$, $p = .023$). Furthermore, a significant relationship emerged between handgrip and BS ($r = -.76$, $p = .012$) only. Finally, session-RPE was highly correlated to AS (r ranging from $-.55$ to $-.83$, $p < .001$) and to the difference BS-AS (r ranging from $.44$ to $.79$, $p < .001$). Although significant relationships emerged for basketball players' anthropometric, handgrip, and BS values, the same picture do not emerged for AS, probably due to a heterogenous adaptation to training loads.

References

- [1] Kinnunen et al., (2001) Anthropometric correlates of basketball free-throw shootings by young girls. *Percept Mot Skills* 93: 1, 105-108.
- [2] Manzi et al. (2010) Profile of weekly training load in elite male professional basketball players. *J Strength Cond Res* 24: 5, 1399-1406.

Keywords

Anthropometric; situational sport; technical performance.