The Effects of Jump Rope Training on Fitness: A Randomized Control Trial amongst Maltese Female Basketball Athletes

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The aim of this study was to investigate the effects of rope jumping (RJ) on speed, power, agility, balance and coordination in a group of adult female basketball athletes. This study also investigated whether the effects induced by RJ were induced by a combination of jumping with the rope or simply by jumping repetitively only.

15 female basketball athletes were recruited to this study (age = 22 ± 3.87 years; basketball experience = 12.2 ± 4.42 years; BMI = 24.6 ± 2.95 kg/m²). Participants were randomly allocated to one of three groups: rope jumping group (RJG) (n=5), jump without rope group (JWORG) (n=5) and control group (CG) (n=5). Participants in the intervention groups participated in jump training (with or without the rope), for 9 weeks. Three weeks into the intervention, all organised sports was abruptly stopped due to the Covid-19 pandemic and the remaining jump sessions were held online.

Physical fitness was measured using the 20-meter sprint test, vertical countermovement jump, Illinois agility test, Illinois dribble test, and the lower quarter Y balance test.

Results: When comparing baseline values to post-intervention values, a significant difference (p=0.009) between the 3 groups was observed in lower-body power output: +3.72% for JWORG (95% CI -4.01% to 11.45%), -0.04% for RJG (95% CI -3.32% to 3.25%) and -10.3% for CG (95% CI -22.04 to 1.43%). No differences were observed between the groups for the change in all other fitness variables (p>0.05).

Conclusion: RJ and jumping-without-the-rope were found to be equally effective in increasing/maintaining lower-body power output, even during periods of detraining. However, they were found to have no effect on speed, agility, balance and coordination.

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