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OFF-ICE MUSCLE STRENGH POWER CORRELATION WITH ON-ICE PERFORMANCE SELECTED ACTIVITIES

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INTRODUCTION

Ice hockey is a team sport characterised by an intense physical effort that combines the technical skills of skating together with the explosive actions of the lower limbs (acceleration, change of direction) and the upper body (shot, pass) [1]. Therefore, the determinants and relationships between specific performance and various motor properties such as muscular strength, acceleration or locomotor speed are sought [2]. Due to the long ice hockey league season, it is believed that players should shape their motor skills off the ice and select exercises accordingly to translate them into performance during specific actions on the ice and moving on skates [3, 4].

The aim of this study was to determine the relationship between selected strength parameters measured on land and performance on ice in hockey players.
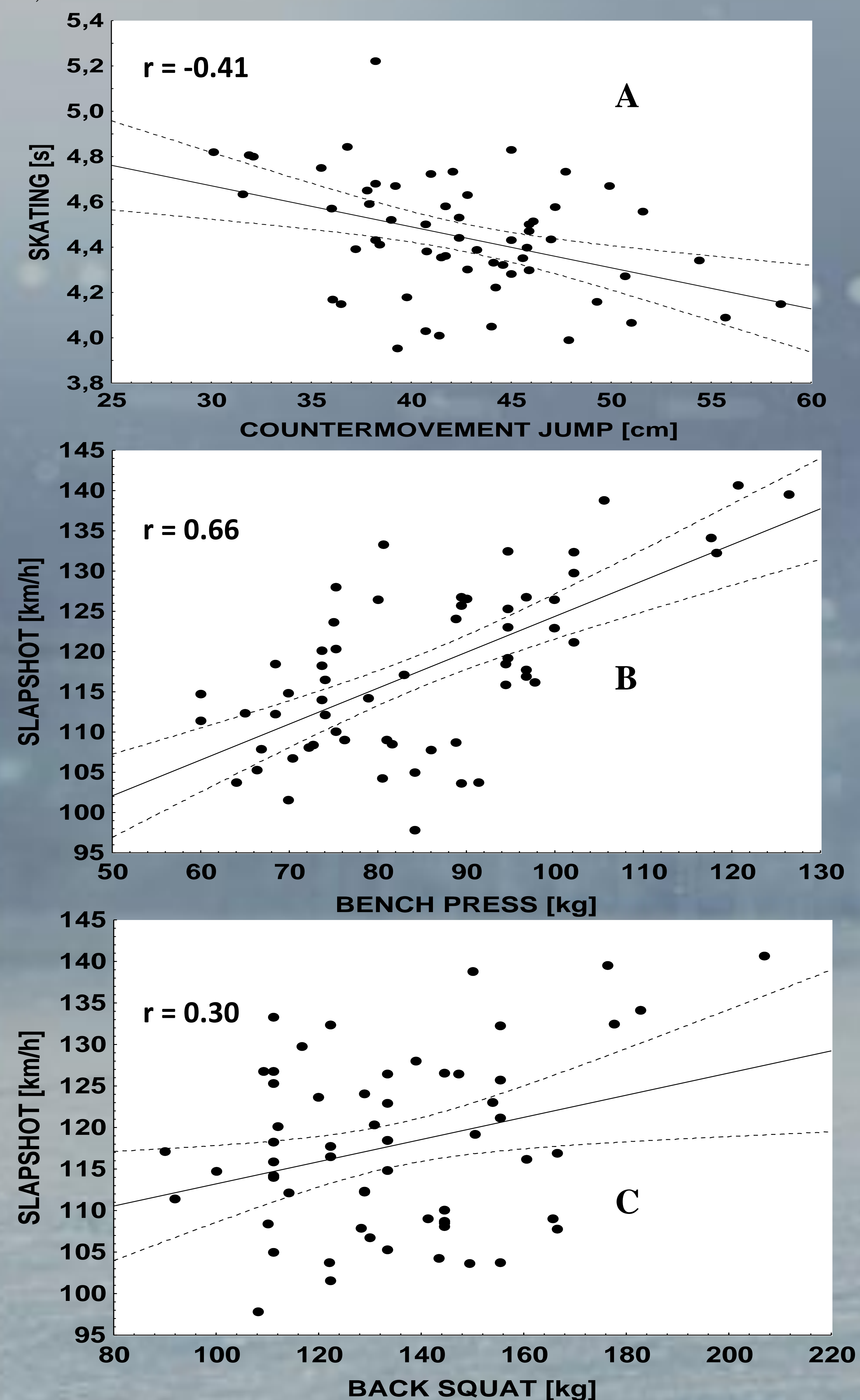
MATERIAL AND METHODS

Thirty ice hockey players participated in the study, with an age of 17.8 ± 1.3 (year), body height of 181.7 ± 4.7 (cm) and body weight of 78.5 ± 8.5 (kg). In the study the following strength level tests were performed on land to determine 1 repetition maximum (1RM): bench press, back squat and deadlift. Lower limb power was determined by countermovement jump with hands on hips, and performance tests were performed on ice, slap shot, and skating for 30m. Pearson's correlation coefficient (r) was calculated.

RESULTS

The analysis performed indicates a significant correlation between the bench press and the slap shot (r = 0.66, p = 0.00), the countermovement jump and the 30m skating test (r = -0.41, p = 0.01) and the back squat and the slap shot (r = 0.30, p = 0.19). There was no correlation between the deadlift and the slap shot and skating for 30m.

Figure 1. Pearson's correlation coefficient between skating for 30m and countermovement jump (A), slapshot and bench press (B), slapshot and back squat (C).

CONCLUSIONS

Ice hockey coaches wishing to increase their team's performance of, among other things, the skating for 30m acceleration and the slap shot should supplement their on-ice training with exercises off-ice such as bench press, the back squat and the countermovement jump.

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