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Correlation between Isokinetic Quadriceps and Hamstring strength with Countermovement jump performance in different team sports professional athletes

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Background
The aim of this study was to determine the relationship between isokinetic knee extensor and flexor strength and countermovement jump performance in elite team sports athletes.
Materials and methods
100 professional team sports athletes (football n=32, handball n=16, basketball n=16, women soccer n=22, basket 3x3 n=14) were enrolled in the study. Relationship between quadriceps strength (left and right leg) and hamstring strength (left and right leg) at 60° with CMJ performance (jump height, peak power, peak force, deceleration) were determined using Pearson's correlations.
Results
Women's soccer showed high correlations between strength in both legs quad/hamstring and peak power ($r=0.65-0.82$, $p<0.001$) and force ($r=0.54-0.74$, $p<0.05$). Men's soccer showed correlations between both quads strength and jump height ($r=0-51-0.53$, $p<0.05$), and both quad/hamstring strength and peak force ($r=0.52-0.72$, $p<0.05$), peak power ($r=0.54-0.83$, $p<0.05$), and deceleration ($r=0.56-0.6$, $p<0.05$). Handball players showed a high correlation between both quadriceps strength and jump height ($r=0.54-0.66$, $p<0.05$) and peak power ($r=0.7-0.8$, $p<0.05$), with both quads correlating with peak force ($r=0.7-0.8$, $p<0.05$), only left hamstring correlating with peak force ($r=0.55$, $p<0.05$), and only left quad with deceleration ($r=0.63$, $p<0.05$). Basketball showed both quads correlating with jump height ($r=0.52-0.54$, $p<0.05$) and peak power ($r=0.5$, $p<0.05$), while 3x3 players showed right quadriceps correlating with CMJ deceleration ($r=0.56$, $p<0.05$).
Conclusions
Study results showed moderate to high association between strength and power attributes, implying that strength training should be regularly included in training schedule of high level team sports players.