Resultado de investigación

Efectos del entrenamiento de estabilidad central en el rendimiento físico de futbolistas: revisión sistemática con metaanálisis

Effects of central stability training on physical performance in soccer players: systematic review with meta-analysis

Efeitos do treinamento de estabilidade central no desempenho físico de futebolistas: revisão sistemática com metanálise

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Resumen

Para mantener niveles óptimos de rendimiento físico, los futbolistas deben utilizar diversas estrategias de entrenamiento, como las cargas externas, la pliometría y las sesiones de velocidad. A pesar de la relevancia de estas prácticas, los estudios previos sobre el impacto del entrenamiento de estabilidad central (EEC) en el rendimiento físico de los futbolistas han dado resultados contradictorios. El objetivo de este trabajo es determinar los efectos del entrenamiento de estabilidad central en el rendimiento físico de los futbolistas. Para ello, se realizó una búsqueda sistemática de ensayos en PubMed,

Bireme, Scopus y WOS hasta noviembre de 2023, siguiendo las directrices del Manual Cochrane y las normas PRISMA. Dos evaluadores seleccionaron estudios de forma independiente y, en caso de desacuerdo, un tercero resolvió la discrepancia. Se empleó la escala ROB2 para evaluar el riesgo de sesgo, y se abordó el sesgo de publicación mediante diagramas de embudo y la regresión de Egger. Por otro lado, la calidad se evaluó mediante las listas de verificación SIGN y CONSORT. Los datos se analizaron en RevMan-Web mediante metaanálisis de efectos fijos, evaluando la heterogeneidad con I^2, chi^2 y gráficos de Galbraith. Finalmente, la certeza de la evidencia se determinó mediante el enfoque GRADE. De los 2984 registros, se seleccionaron 37 estudios con 1174 futbolistas de entre 9 y 30 años. El entrenamiento de estabilidad central mejoró el salto vertical en 1,66 cm (IC del 95 %: 0,53, 2,79) y también mejoró las pruebas de agilidad, como el T-drill (-0,71 s [IC del 95 %: -1,27, -0,14]) y el Illinois (-0,56 s [IC del 95 %: -1,05, -0,06]). No se observaron mejoras significativas en los tiempos de sprint de 30 (-0,04 s [IC del 95 %: -0,14, 0,06]) y 20 m (-0,05 s [IC del 95 %: -0,11, 0,01]). Este metaanálisis es pionero en analizar los efectos del entrenamiento de estabilidad central en futbolistas y sus hallazgos son coherentes con los estudios previos realizados con adultos sanos y otros atletas. Aunque la significancia clínica es modesta, es crucial tener en cuenta que, en el deporte, incluso pequeñas diferencias pueden ser decisivas. Los fisioterapeutas deportivos y preparadores físicos pueden utilizar el entrenamiento de estabilidad central para mejorar el rendimiento físico en términos de salto y agilidad de los futbolistas, pero no su velocidad de carrera.

Palabras clave: agilidad, entrenamiento de estabilidad central, estrategias de entrenamiento, futbolistas, rendimiento físico.

Abstract

Maintaining optimal levels of physical performance requires soccer players to utilize a variety of training strategies, including external loads, plyometrics, and speed sessions. Despite the importance of these practices, previous studies on the effects of core stability training (CST) on the physical performance of soccer players have yielded

conflicting results. The purpose of this work is to determine the effects of core stability training on the physical performance of soccer players. A systematic search of PubMed, Bireme, Scopus, and WOS up to November 2023 was conducted according to the guidelines of the Cochrane Handbook and PRISMA standards. Two reviewers independently selected the studies, and in case of disagreement, a third reviewer resolved the discrepancy. Risk of bias was assessed using the ROB2 scale, and publication bias was addressed using funnel plots and Egger regression. Quality was assessed using the SIGN and CONSORT checklists. Data were analyzed in RevMan-Web using fixed-effects meta-analysis, with heterogeneity assessed using I^2, chi^2, and Galbraith plots. Finally, certainty of evidence was assessed using the GRADE approach. From 2984 records, 37 studies with 1174 soccer players aged 9 to 30 years were selected. Core stability training improved vertical jump by 1.66 cm (95 % CI: 0.53, 2.79) and improved agility tests such as the T-drill (-0.71 s [95 % CI: -1.27, -0.14]) and the Illinois (-0.56 s [95 % CI: -1.05, -0.06]). No significant improvements were observed in the 30 (-0.04 s [95 % CI: -0.14, 0.06]) and 20-meter sprint times (-0.05 s [95 % CI: -0.11, 0.01]). This meta-analysis is a landmark analysis of the effects of core stability training in soccer players, and its findings are consistent with previous studies in healthy adults and other athletes. Although the clinical significance is modest, it is important to remember that in sports, even small differences can make a difference. Sports physical therapists and athletic trainers can use core stability training to improve soccer players' physical performance in terms of jumping and agility, but not running speed.

Keywords: agility, core stability training, training strategies, soccer players, physical performance.

Resumo

Para manterem níveis ideais de desempenho físico, os jogadores de futebol devem recorrer a várias estratégias de treino, como cargas externas, pliometria e treino de velocidade. Apesar da relevância destas práticas, estudos anteriores sobre o impacto do treino de estabilidade central (TEC) no desempenho físico dos jogadores de futebol

apresentaram resultados contraditórios. O objetivo deste trabalho é determinar os efeitos do treino de estabilidade central no desempenho físico dos futebolistas. Para esse efeito, foi realizada uma pesquisa sistemática de ensaios na PubMed, Bireme, Scopus e WOS até novembro de 2023, em conformidade com as diretrizes do Manual Cochrane e as normas PRISMA. Dois revisores selecionaram os estudos de forma independente e, em caso de desacordo, um terceiro intervindo resolveu a divergência. A escala ROB2 foi utilizada para avaliar o risco de viés, tendo o viés de publicação sido abordado recorrendo a gráficos de funil e à regressão de Egger. A qualidade foi avaliada com recurso às listas de verificação SIGN e CONSORT. Os dados foram analisados no RevMan-Web, recorrendo a uma metanálise de efeito fixo. A heterogeneidade foi avaliada com o I^2, o teste Chi^2 e gráficos de Galbraith. Por fim, a certeza da evidência foi determinada recorrendo à abordagem GRADE. Dos 2984 registos, foram selecionados 37 estudos que envolviam 1174 jogadores de futebol com idades entre os 9 e os 30 anos. O treino de estabilidade central melhorou o salto vertical em 1,66 cm (IC 95 %: 0,53, 2,79) e melhorou os testes de agilidade, como o T-drill (-0,71 s [IC 95 %: -1,27, -0,14]) e o Illinois (-0,56 s [IC 95 %: -1,05, -0,06]). Não foram observadas melhorias significativas nos tempos de sprint de 30 (-0,04 s [IC 95 %: -0,14, 0,06]) e 20 m (-0,05 s [IC 95 %: -0,11, 0,01]). Essa metanálise é a primeira a examinar os efeitos do treinamento de estabilidade central em futebolistas, e seus resultados são consistentes com estudos anteriores realizados com adultos saudáveis e outros atletas. Embora o significado clínico seja modesto, é crucial considerar que, no esporte, até mesmo as pequenas diferenças podem ser decisivas. Os fisioterapeutas esportivos e preparadores físicos podem usar o treinamento de estabilidade central para melhorar o desempenho físico dos futebolistas em termos de salto e agilidade, mas não a velocidade de corrida.

Palavras-chave: agilidade, treino de estabilidade central, estratégias de treinamento, futebolistas, desempenho físico.

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