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Title: Comparison of the effects of the motion control versus neutral footwear on the selected gait kinematic parameters among 10-12-year-old boys with genu valgum deformity

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General Chair

Comparison of the effects of the motion control versus neutral footwear on the selected gait kinematic parameters among 10-12-year-old boys with genu valgum deformity

پذیرفته شده برای پوستر

شناسه دیجیتال (DOI): 10.22089/SSRC.2024.4899
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چکیده

Introduction: Genu valgum is one of the most common deformities of the lower limbs. To treat this abnormality, before closing the growth plates, it is recommended to use medical shoes, braces and perform corrective exercises. Therefore, the purpose of this research was to compare the effect of two types of neutral shoes and motion control on some kinematic parameters of walking in male students aged 10-12 years old with crossed knee deformity.

Materials and Methods: The research was quasi-experimental and practical in terms of purpose, which was carried out in an experimental group. The statistical population of the research consisted of male students aged 10 to 12 years with cruciate knee. Then, among the statistical population, 30 people who had the conditions to enter the research (targeted and available) were selected as subjects and were placed in an experimental group. After selecting the subjects, the measurements were done in one session. An Apple model 13 mobile phone made in the United States was used to measure walking parameters. After collecting the data, analysis of variance with repeated measures was used to analyze them at a significance level of $P \le 0.05$.

Results: The results of the present study showed that there is a difference between the effect of neutral and motion control footwears on the amount of knee valgus in the heel contact phase during walking ($P=0.004$), the duration of the walking cycle ($P=0.001$) and the duration of double support ($P=0.001$).

Conclusion: According to the results obtained from the present study, motion control shoes significantly reduced knee valgus and improved walking parameters, including walking cycle duration and dual support. Most likely, these results were obtained following positive changes in ankle and knee alignment. This improvement in the alignment of the joints of the lower limbs has probably improved the use of the muscles involved in the knee and ankle joints including hip abductors and tibialis anterior, which has finally improved the walking pattern and alignment.

کلیدواژه ها به انگلیسی

Keywords: Neutral footwear; Motion control footwear; Genu Valgum; Gait kinematic; Foot pronation

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