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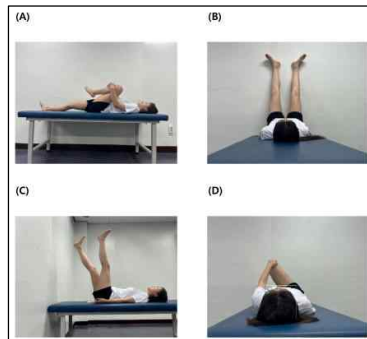
이은지 물리치료사



이은지 물리치료사의 연구(지도교수 황영인)는 "Comparison of static and dynamic balance between lymphatic exercise and manual lymphatic drainage in healthy people: a randomised controlled trial"로 건강한 성인을 대상으로 림프운동과 도수림프배출법이 정적 및 동적 균형능력, 운동학적 변수, 근활성도에 미치는 영향을 비교하여, 두 중재가 균형능력 향상에 서로 다른 임상적 효과를 나타내는 것으로 제시하였다.

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이은지 물리치료사는 "지도교수님의 노고와 연구실 동료들과 후배의 격려가 있었기에 이뤄낼 수 있었으며, 이번 논문 게재를 통해 학과의 연구 발전에 많은 도움이 되면 좋겠고 후배들의 연구에 대한 동기부여가 됐으면 좋겠다." 라고 언급하였다.



Comparison of static and dynamic balance between lymphatic exercise and manual lymphatic drainage in healthy people: a randomised controlled trial

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ABSTRACT

Background: Balance refers to the ability to maintain body posture in space and is influenced by multiple factors, including fatigue, neuromuscular impairment, and exercise. Balance control depends on coordinated lower-limb muscle activation and neuromuscular regulation, which are closely associated with postural stability and body fluid circulation. Exercise and manual lymphatic drainage (MLD) therapy are employed as components of complex physical therapy for oedema reduction and function to promote lymphatic flow.

Objective: This study aimed to compare the effects of a structured lymphatic exercise programme and MLD therapy on balance performance.

Methods: Twenty-two healthy adults were randomly allocated to a lymphatic exercise group ($n = 11$) or an MLD group ($n = 11$). Surface electromyography (sEMG), force plate, and inertial measurement unit (IMU) sensors were used to assess static and dynamic single-leg stance (SLS) and the modified Star Excursion Balance Test (mSEBT) pre- and post-intervention. Statistical analyses included independent and paired t-tests and ANCOVA ($p < 0.05$).

Results: Significant between-group differences were observed in knee flexion and tibialis anterior activity during static SLS ($p < 0.05$), ankle dorsiflexion angle during dynamic SLS ($p < 0.05$), and pelvic tilt and tibialis anterior and peroneus longus muscle activity during mSEBT ($p < 0.05$). In addition, the lymphatic exercise group showed a significant increase in maximum reach distance in the posterolateral direction after the intervention ($p < 0.05$). **Conclusion:** MLD was effective in reducing compensatory movements during static tasks, while lymphatic exercise enhanced ankle stability and pelvic control during dynamic tasks. Further studies are needed to evaluate long-term effects.

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