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The Effects of Tai Chi Chuan Robotic Training on Shoulder Range and Psychological Well-being in Breast Cancer Survivors

Abstract:

Background: Breast cancer is one of the most prevalent cancers globally. Breast cancer survivors often reported experiencing pain and reduced range as well as body image concern. This would affect their psychological well-being, which may further hinder recovery. The aim of this study is to evaluate the effectiveness of Tai Chi Chuan Robotic Training compared to a self-exercise control group in improving shoulder range and psychological well-being among breast cancer survivors.

Methodology: Breast cancer survivors who had undergone surgery within one year and completed all adjuvant therapy (n = 36) were recruited from the Hong Kong Breast Cancer Foundation and randomly assigned to two groups. The intervention group (n = 16) participated in Tai Chi Chuan robotic training at Tung Wah College, while the control group (n = 20) performed the same exercises without the robotic machine at home. Both groups trained twice per week for a total of 12 sessions, with each session lasting 45 minutes. Shoulder movement (flexion and abduction) and health-related quality of life (HRQoL) were assessed at baseline and immediately after the intervention.

Results: Significant improvement in shoulder flexion range was found within the intervention group (from 138±18° to 150±21°, p=0.004), but not for the control group (from 139±16° to 145±15°, p=0.291). Moreover, significant improvement was found in shoulder abduction range within the intervention group (from 139±28° to 151±22°, p=0.014), but not in the control group (from 136±22° to 147±22°, p=0.291). There was significant improvement in HRQoL within the intervention group (from 100±22 to 112±18, p=0.002), but no change of HRQoL was found in the control group (from 95±20 to 95±25, p=0.272).

Conclusion: The findings suggest that Tai Chi Chuan Robotic Training is effective in improving shoulder range and psychological well-being of breast cancer survivors.

Keywords: breast cancer, Tai Chi, shoulder range, psychological well-being

Biography: Lee Lai Kwok is a final year undergraduate student majoring in Physiotherapy at Tung Wah College, Hong Kong. Her interests include improving women's health and empowering women living with illness in the community.