Clinical Pilates as a Strategy to Promote Physical Activity in Healthcare Professionals of the Local Health Unit (ULS) Almada-Seixal with Musculoskeletal Pain

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Introduction

Regular physical activity is essential in the prevention and management of low back and neck pain [(1,2)], both musculoskeletal conditions that are highly prevalent among healthcare professionals. Due to the nature of their work, which involves long periods of standing, repetitive movements, and physical effort, these professionals are particularly vulnerable. Regular physical activity can help, improving functionality and quality of life for these professionals, and consequently enhancing their work performance and well-being [(3)].

Purpose

Our goal was to analyze a physical activity program involving Clinical Pilates and its benefits in terms of pain, functional disability, and quality of life among employees of the Local Health Unit of Almada-Seixal (ULSAS) experiencing neck and low back pain.

Material and methods

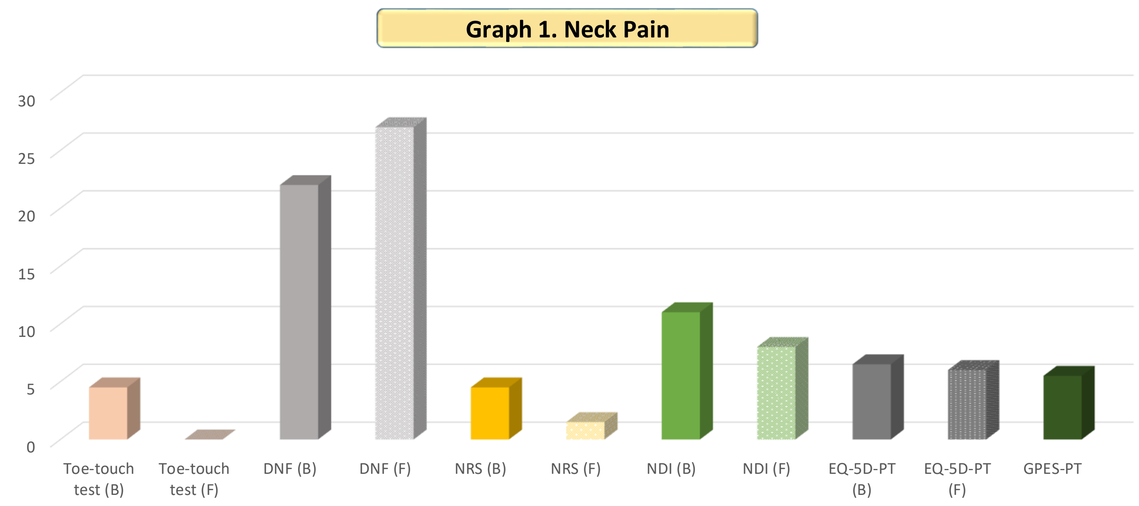
Forty-six healthcare professionals participated in a supervised Clinical Pilates program, divided into two groups: neck pain (n=22; mean age 52.2±6.8 years; 95%♀) and low back pain (n=24; mean age 48.29±10.1 years; 92%♀). The participants underwent an 8-week supervised clinical Pilates program, with two 40-minute sessions per week, and were assessed at baseline and 8 weeks later. Each session was structured into three phases: warm-up (4 exercises, 8-10 repetitions, 1-2 sets), stability exercises (8-10 exercises, 10-12 repetitions, 1-2 sets) and stretching (4 exercises, 30-45 seconds each). The exercises progressed on a weekly basis, either by increasing motor complexity or by introducing external resistance with thera-bands, dumbbells or medicine balls.

The neck pain group performed exercises focused on the deep neck flexors (DNF), as well as the scapular and lumbar-pelvic stabilizers, while the low back pain group performed exercises focused to the lumbar-pelvic stabilizers. The assessment include flexibility (toe-touch test), muscle activation assessment (craniocervical flexion test for targeting the DNF and palpation to assess the transversus abdominis (TrA) muscle activation). Pain was assessed using the Numeric Pain Rating Scale (NPRS). Functionality was evaluated with the Neck Disability Index (NDI-PT) and the Quebec Back Pain Disability Scale (QBPDS-PT). Global perceived improvement was measured using the Global Perceived Effect Scale (GPES-PT), and health-related quality of life was assessed with the EuroQol (EQ-5D-PT) instrument. Helsinki principles were respected.

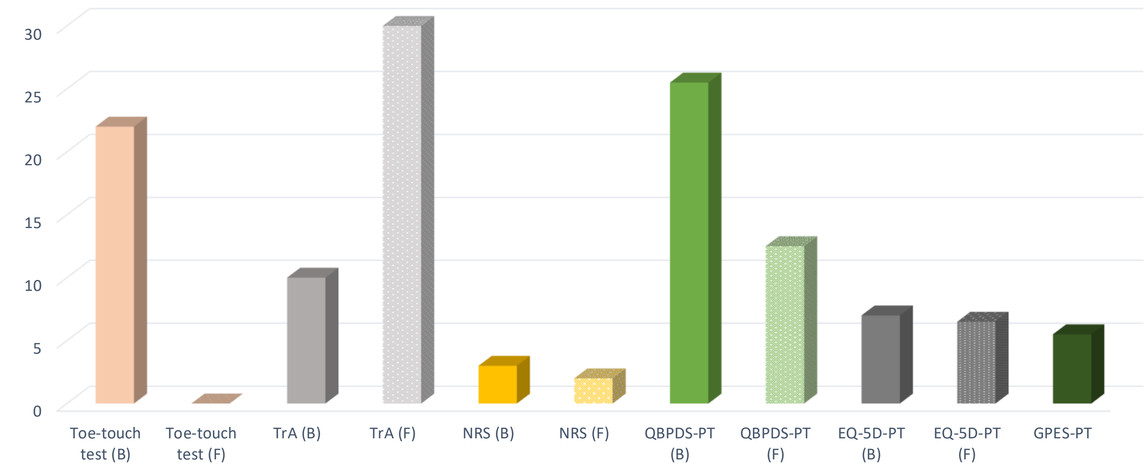
Results

The participants showed statistically significant benefits ($p<0.05$) compared to baseline values (Graph 1 and 2), with minimal clinically important difference (MCID) in neck pain (MCID>2) and lumbar function (DMCI>7). This was followed by a perceived improvement reported (MCID>3) by all participants (5.5±0.6 points cervical group, 5.5±1.5 points lumbar group), as well as gains in flexibility (4.5±10.2 cm to 0±6.7 cm cervical group, 22±10.7 cm to 0±7.6 cm lumbar group) and activation of the target muscles - DNF in the cervical group (22±1.9 mmHg to 27±2.4 mmHg) and transverse abdominis in the lumbar group (10±2.6 sec to 30±7.0 sec) .

Graph 1. Neck Pain



Graph 2. Low back pain



Discussion and conclusion

Improvements in muscle activation are consistent with the World Health Organization's guidelines, which emphasise regular physical activity and resistance training as key strategies for the prevention and management of musculoskeletal conditions [(3)].

Supervised Clinical Pilates highlights the potential of structured physical activity as an effective strategy for managing low back and neck pain, particularly among healthcare professionals. In addition to its relevance for this population, the approach can be adapted and extended to other populations with similar needs.

References

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