

Cost-utility of Pilates versus home-based exercises in individuals with chronic non-specific low back pain: economic evaluation alongside a randomised controlled trial

EIXO 1: SUSTENTABILIDADE NOS SISTEMAS DE SAÚDE

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Introduction: Chronic non-specific low back pain (CNLBP) is a major cause of disability resulting in high healthcare and lost productivity costs worldwide. Exercise therapy is the most prescribed treatment for CNLBP worldwide. Despite the benefits of exercise therapy, systematic reviews have highlighted the need for further high-quality evidence regarding their (cost-)effectiveness related to alternative treatments such as Pilates. Therefore, the aim was to investigate the cost-effectiveness of Pilates compared with home-based exercises for CNLBP.

Methods: Economic evaluation alongside a randomized controlled trial comparing Pilates vs home-based exercises for adults with CNLBP with a 6-month follow-up from both the healthcare perspective (only healthcare costs included) and the societal perspective (both healthcare and lost productivity costs included). Pilates included exercises with accessories delivered in groups of up to 4 individuals. Home-based exercises consisted of postural exercises, muscle stretching and strengthening, and spine stabilization/mobilization. The interventions were performed twice a week for 6 weeks. The outcome was quality-adjusted life years (QALYs), measured by the Brazilian version of the EQ-5D-3L. Costing questionnaires were applied at post-intervention and 6-month follow-up and valued using the Brazilian costing database (DATASUS). All costs were expressed in Reais (R\$), referenced to 2020. All analyses were performed according to intention-to-treat using RStudio version

4.2.1. Missing cost-effect data were imputed using multiple chained equation imputation. Differences in costs and effects between groups at 6-month follow-up were estimated using seemingly unrelated regressions. The joint uncertainty around differences in costs and effects was estimated using Bias-corrected accelerated bootstrapping with 5,000 replications. The willingness-to-pay threshold (WTP) adopted for QALYs was R\$ 40,000/QALY gained (equivalent to 1 GDP/capita). Register: clinicaltrials.gov; NCT03113292.

Results: Seventy-two participants were allocated to PG and 73 to HBEG. QALY was significantly higher in the PG compared to HBEG (MD: 0.046, CI95%: 0.022;0.070). The total healthcare costs were R\$184 and R\$175 for Pilates and Home-Based Exercises, respectively. The total societal costs were R\$1,687 for Pilates and R\$2,238 for the Home-Based Exercises. The main contributors to total societal costs in both groups were indirect costs (R\$1,503 in PG and R\$2,062 in HBEG), and commutation costs (R\$80 in PG and R\$74 in HBEG). From a societal perspective, PG was dominant over HBEG (ICER= R\$-11,076/QALY gained), and the probability of cost-effectiveness was 80% at a WTP of 10,000 R\$/QALY gained. From the healthcare perspective, the ICER for PG compared to HBEG was R\$158/QALY gained. At a WTP of 1,000 R\$/QALY gained, the probability that PG was cost-effective compared to HBEG was 80%.

Discussion and conclusions: Our findings suggest that Pilates exercises delivered in small groups was considered more cost-effective compared to HBE, for individuals with chronic non-specific low back pain.