

Low back pain (LBP) is a major health problem¹, considered the leading cause of years lived with disability¹ and of absenteeism. Although the impact on productivity varies in the literature², one systematic review estimated the direct medical costs as \$300 billion in the United States (U.S.) alone³. Unsatisfactory LBP management may lead to overutilization of imaging⁴, surgeries^{5,6}, and medication, including opioids^{7,8}. Current guidelines for chronic LBP (CLBP) management recommend physiotherapy as a first-line intervention, alongside education and behavioral interventions^{9,10}. Moderate-certainty evidence from randomized controlled trials (RCTs) supports the effectiveness of exercise-based physiotherapy in reducing pain and disability in LBP treatment¹¹, and these interventions have often yielded better outcomes for disability and return to work than surgical interventions^{2,12}. However, access to in-person physiotherapy faces several barriers: a scarcity of healthcare resources (including therapists and facilities), time-, travel-, and costs-constraints (work time off, childcare costs), insufficient health literacy, and, more recently, the perceived risk of contracting infections¹³. All these also affect engagement, resulting in high percentages of unattended or incomplete treatments¹⁴. Digital interventions have great potential in overcoming such challenges, being more accessible and affordable than in-person physiotherapy^{15,16}, and increasing patient adherence and empowerment¹⁷. Within LBP management, research has focused on the effectiveness and safety of digital interventions, both as adjuncts to in-person care^{18,19} and as stand-alone through video conference-based¹⁹ or asynchronous telerehabilitation^{20,21}. The latter has the potential to scale care delivery, addressing the growing prevalence of CLBP¹. However, the few trials comparing exercise-based asynchronous interventions with standard in person physiotherapy considered cohorts with diverse acuity levels^{20,21} or were non-randomized studies²⁰, compromising the certainty of evidence on the subject. Thus, further research is needed on the effectiveness of these solutions as an alternative to in-person physiotherapy for CLBP. Previously, we demonstrated the effectiveness of tailored digital care programs (DCP) integrating exercise, education, and cognitive behavioral therapy (CBT) in several musculoskeletal conditions^{22,23}, including acute and chronic LBP^{24,25}. The present RCT aims to compare the clinical outcomes of patients with CLBP following a DCP versus conventional in-person physiotherapy. We hypothesize that outcomes are comparable to those obtained with conventional physiotherapy.