frontiers | Frontiers in Public Health

TYPE Study Protocol
PUBLISHED 30 September 2022
DOI 10.3389/fpubh.2022.1012369

OPEN ACCESS

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SPECIALTY SECTION
This article was submitted to Digital Public Health, a section of the journal Frontiers in Public Health

RECEIVED 05 August 2022
ACCEPTED 13 September 2022
PUBLISHED 30 September 2022

CITATION
Estebanez-Pérez M-J, Martín-Valero R, Moreno-Morales N, Liñán-González A, Fernández-Navarro R and Pastora-Bernal J-M (2022) Digital physiotherapy intervention in children in a low resource setting in Anantapur (India): Study protocol for a randomized controlled trial. *Front. Public Health* 10:1012369. doi: 10.3389/fpubh.2022.1012369

Digital physiotherapy intervention in children in a low resource setting in Anantapur (India): Study protocol for a randomized controlled trial

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Introduction: In rural India the scarcity of physiotherapists and inequalities complicate the recovery of traumatized children. This study protocol will explore a digital physiotherapy intervention in children with ankle fracture in a low-resource setting to improve functional independence and quality of life.

Methods and analysis: A randomized clinical trial with a mixed quantitative-qualitative design will be carried out. It is a single-blind study, where the evaluator does not know the nature of the intervention. Sixty subjects will be enrolled and randomly divided into two groups: the experimental group (EG) will receive a 4-week digital physiotherapy intervention through an app in a recycled mobile device after hospital discharge; the control group (CG) will receive the physiotherapy standard care recommended for patients discharged from the hospital. Subjects will receive a baseline (T0-pre) assessment of Functional Independence and Quality of Life. At the end of the 4-week intervention (T1-post) a new assessment of the outcome will be performed adding data on adherence, satisfaction (*ad hoc* questionnaire and TSQ), and barriers of use. Qualitative outcomes will also be explored. The author's hypothesized that the implementation of a digital physiotherapy intervention is feasible and effective to improve functional independence and quality of life. This study protocol is the first to explore the effect of digital physiotherapy intervention in children's patients in a low resource setting (Anantapur).

Discussion: The successful delivery of the intervention, an optimal adherence records, the absence of significant adverse effects, user satisfaction level and the qualitative analysis of limitations, will demonstrate the effectiveness of these procedure. This study will add more evidence in support the use of digital physiotherapy practice as an effective tool. User particularities, provider's capacity, technological and cultural limitations, and considerations for vulnerable populations will be taken into account.

Clinical trial registration: NCT04946695 (https://clinicaltrials.gov/).

KEYWORDS

telerehabilitation, fracture, low resources, pediatrics, digital practice