powered by

dkfz.
GERMAN
CANCER RESEARCH CENTER
IN THE HELMHOLTZ ASSOCIATION

Contribution ID: **185** Type: **1 - Scientific Poster**

Outcome measures to assess the effectiveness of exercise interventions on chemotherapy-induced peripheral neuropathy (CIPN): a scoping review

Wednesday 22 July 2026 12:55 (20 minutes)

Chemotherapy-induced peripheral neuropathy (CIPN) is a common side effect of neurotoxic chemotherapy that can affect functioning and quality of life. No effective pharmacological treatments exist, highlighting the need to understand non-pharmacological strategies such as exercise. Given significant heterogeneity in the CIPN outcome measures chosen across studies, this scoping review aimed to identify the outcome measures used to evaluate the effectiveness of exercise interventions as a potential countermeasure for CIPN. Following the Arksey and O'Malley framework refined by Levac and colleagues, and the PRISMA-ScR guidelines, four databases (CINAHL, EMBASE, Medline, Scopus) were searched. Exercise randomized controlled trials involving adults with or at risk of CIPN that implemented a CIPN outcome measure were eligible for inclusion. Of the 1858 citations retrieved, 16 articles were included in this review. Data were charted on study characteristics, cancer and chemotherapy factors, exercise prescription, outcome measures, and CIPN-related findings. The included studies spanned a range of cancer types, chemotherapy agents, and intervention timings, with most participants either undergoing or having recently completed chemotherapy. Exercise interventions varied widely in modality, duration, supervision, and delivery setting. Outcome measures varied widely across studies, encompassing various patient-reported, clinical, and functional measures. The most common patient-reported, clinical, and functional measures were the EORTC QLQ-CIPN20, vibration sensation, and both the 6-minute walk test and maximal isometric strength, respectively. Approximately half of the included studies reported significant improvements in CIPN symptoms with exercise, with some also demonstrating benefits in physical function or health-related quality of life. In contrast, others showed stable symptoms or no between-group differences. No study satisfied the components of the core outcome measure set proposed by Park and colleagues, limiting cross-study comparisons. These findings underscore the need for standardized CIPN outcome measures in future exercise studies to strengthen evidence synthesis and inform clinical practice.

Keywords

chemotherapy-induced peripheral neuropathy; exercise interventions; outcome measures; scoping review

Conflict of Interest & Ethical Approval

yes

Abstract submitters declaration

yes

Author: LINDSTROM, Trei (Faculty of Rehabilitation Medicine, College of Health Sciences, University of Alberta, Edmonton, AB, Canada)

Co-authors: PARKINSON, Joanna (Faculty of Rehabilitation Medicine, College of Health Sciences, University of Alberta, Edmonton, AB, Canada); COURNEYA, Kerry S. (Faculty of Kinesiology, Sport, and Recreation, College of Health Sciences, University of Alberta, Edmonton, Canada); MCNEELY, Margaret L. (Faculty of Rehabilitation Medicine, College of Health Sciences, University of Alberta, Edmonton, AB, Canada)

Presenter: LINDSTROM, Trei (Faculty of Rehabilitation Medicine, College of Health Sciences, University of Alberta, Edmonton, AB, Canada)

Session Classification: Poster Session