

Home-Based E-Health Rehabilitation for Older Adults Post-Stroke – Activity Monitoring and Coaching Interventions: A Scoping Review

S Pellegrom, Z Gildoni, M van Hartingsveldt, Hans Ket, Bianca Buurman, Maud Graff, Marije Holstege and Margriet Pol

Sanne Pellegrom, PhD student, Amsterdam University of Applied Science, The Netherlands



s.pellegrom@hva.nl

Supported by a grant from ZonMw (the Netherlands Organisation for Health Research and Development)



Introduction

- Older adults post-stroke face long-term challenges in daily functioning, self-management, and participation
- Transition from geriatric rehabilitation to home is particularly vulnerable
- Innovative, home-based rehabilitation solutions are needed

Aim: to map the existing literature on blended interventions combining activity monitoring and (online)coaching for older persons after stroke, with a focus on daily functioning, self-management, and participation



Methods

Design: Scoping review (PRISMA-ScR; Arksey & O'Malley)

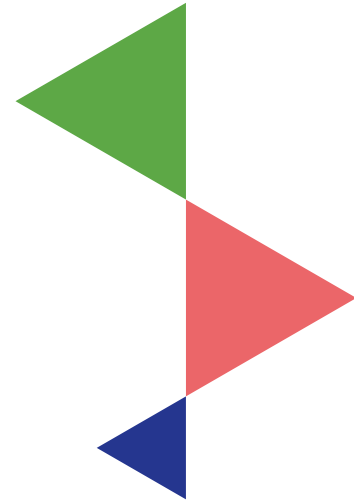
Search: Multiple databases (e.g. MEDLINE, Embase, CINAHL, Scopus)

Selection: Dual independent screening (Rayyan)

Inclusion:

- Older adults (≥ 60) after stroke sub-acute
- Home-based eHealth interventions; activity monitoring and online
- Combined activity monitoring + (Hybride) coaching

Analysis: Data charting & thematic synthesis



Results - overview



16699 articles
identified
↓
16 included

Included study designs

- 7 Systematic review, 1 Scoping review, 4 RCTs, 1 observational, 3 feasibility/pilot

Characteristics

- Technologie: apps, mobile devices, telephone, tablets, accelerometers/ pedometers and wearable activity trackers
- Coaching: combining education, advice, support, and remote monitoring
 - Healthcare professionals
 - Self-management support strategies (e.g. problem-solving, goal-setting, decision-making, self-monitoring and coping strategies)
- Duration: few weeks to several months



Results – outcomes

Daily functioning

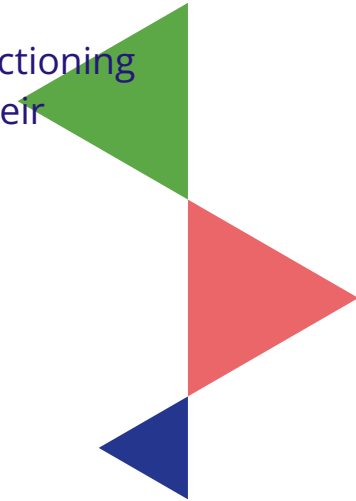
- Increase of physical performance and physical activity levels → increase daily functioning
- e-health interventions effectively support older adults after stroke in regaining their functional independence

Self-management

- Self-management support during coaching element

Participation

- Rehabilitation participation and use of eHealth



Results – Key preliminary themes

Theme 1: Technological components are well specified, while professional coaching remains poorly operationalized

- Apps, wearable devices and activity monitoring are used to support physical performance and daily activities
- The coaching or guidance component of telerehabilitation interventions is limited or insufficiently described



Results – Key preliminary themes

Theme 2: Communication technologies used to facilitate care delivery and transitions across rehabilitation settings

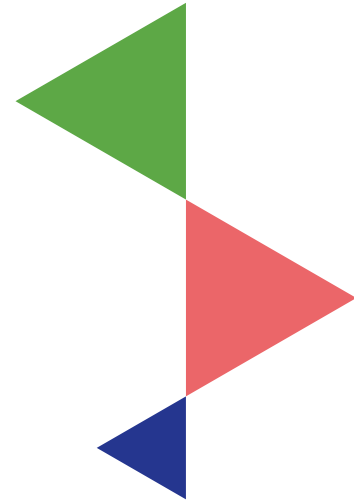
- A range of communication technologies, including telephone, videoconferencing, apps and web-based platforms, are used for consultation and education
- Remote communication supports rehabilitation delivery across settings, including earlier discharge and prolonged home-based rehabilitation



Results – Key preliminary themes

Theme 3: Improvement is reported across a range of outcomes following telerehabilitation

- Reported improvements vary across outcome domains and intervention types
- Reported improvements are, in some studies, attributed to increased access to rehabilitation rather than to intervention superiority



Conclusion & take-home message

- Use of technology in healthcare is growing, and we need to adjust the way we are working
- Telerehabilitation supports older adults after stroke in daily functioning—yet how occupational therapists should coach and guide clients remains largely unclear

