

PEER-HOMEcare

Pedagogy and Enriched Environment for Rehabilitation - Holistic, Optimised, Methodical, and Empathetic care

KEYWORDS

Home care, Enriched environment, Pedagogical intervention, Professional development, Patient-centred, Interdisciplinary,

DURATION

36 months

ABSTRACT

Stroke is the third leading cause of death and disability worldwide. In 2021, there were 11.9 million new stroke cases and 93.8 million people living with stroke globally. Although age-adjusted incidence has declined among people over 70 years, the overall burden continues to rise due to population growth and demographic change. Stroke also imposes a substantial societal and healthcare burden, costing approximately €45 billion annually in Europe. Many stroke survivors experience lasting impairments, with upper limb paresis affecting approximately 70% of individuals after stroke. Recovery of arm and hand function is therefore a key rehabilitation priority, as it is closely linked to independence in activities of daily living. At the same time, stroke care has increasingly shifted toward earlier hospital discharge and the delivery of rehabilitation in patients' homes. This creates an urgent need for effective, sustainable, and equitable home-based rehabilitation strategies. The home is where most stroke survivors spend much of their time during the post-acute phase, particularly within the first six months after stroke, when neuroplastic recovery potential is greatest. Although some neural repair occurs spontaneously, recovery is strongly shaped by activity and experience, highlighting the importance of active, exploratory use of the affected body parts in everyday contexts. The PEER-HOMEcare project, Pedagogy and Enriched Environment for Rehabilitation – Holistic, Optimised, Methodical, and Empathetic care, responds to this need by translating principles of enriched environments, originally studied in animal models, into a theorydriven, person-centred approach to home-based stroke rehabilitation. The project develops meaningful, targeted, and progressive modifications to the home environment that promote motor, cognitive, and social engagement, with a particular focus on exploratory use of the affected upper limb during daily activities. Across Norway, Sweden, and Latvia, PEER-HOMEcare evaluates the feasibility, acceptability, fidelity, adherence, and preliminary clinical effects of the intervention across different healthcare systems in Norway, Sweden and Latvia. The project also examines stakeholder attitudes toward home modification and explores how environmental changes influence engagement in rehabilitation activities. In parallel, wearable sensors are used to assess participation in daily living and therapeutic activities, with attention to motor and cognitive engagement during the early months after stroke. By combining rehabilitation science, pedagogy, environmental enrichment, sensor technology, and implementation support, PEER-HOMEcare aims to reduce the social and economic burden of stroke while strengthening person-centred, and sustainable models of rehabilitation care. The project also builds capacity among healthcare professionals and caregivers through practical tools, training resources, and an open-access online platform, supporting equitable access to high-quality home-based rehabilitation across Europe.



PARTNERS

PI	Organization	Country
Rudd	Norges Idrettshøgskole	Norway
Pacheco	University of Porto	Portugal
Sunnerhagen	The University of Gothenburg	Sweden
Bērziņa	Riga Stradin University	Latvia
Løvstad	Sunnaas Sykehus HF	Norway
Kanth	The Swedish Stroke Association	Sweden
Bjerke	LHL Hjerneslag og Afasi	Norway

