

Bayan Alwadai

University of Exeter
UK

Telerehabilitation and its impact following Stroke: An umbrella review of systematic reviews

Abstract:

This umbrella review aims to summarize the impact of various telerehabilitation interventions on motor function, balance, gait, activities of daily living (ADL), and quality of life (QoL) among patients with stroke. Six electronic databases were searched to identify relevant quantitative systematic reviews (SRs). Due to substantial heterogeneity, the data were analysed narratively. A total of 28 systematic reviews (n=245 primary studies) were included that examined various telerehabilitation interventions after stroke. Motor function was the most studied outcome domain across the reviews (20 SRs), followed by ADL (18 SRs) and balance (14 SRs) domains. For primary outcomes, our findings highlight moderate- to high-quality evidence showing either a significant effect or no significant difference between telerehabilitation and other interventions. There was insufficient evidence to draw a conclusion regarding feasibility outcomes including participant satisfaction, adherence to treatment, and cost. Most reviews under this umbrella included patients with stroke in the subacute or chronic phase (12 SRs). Simple and complex telerehabilitation interventions such as telephone calls, videoconferencing, smartphone or tablet-based mobile health applications, messaging, VR, Robot-assisted devices, and 3D animation videos, either alone or in combination with other interventions were included across reviews. In conclusion, various telerehabilitation interventions have shown either a significant effect or no significant difference compared to other interventions in improving upper and lower limb motor function, balance, gait, ADLs, and QoL, regardless of whether simple or complex approaches were used. Further research is needed to support the delivery of rehabilitation services through telerehabilitation intervention following a stroke.

Biography

Bayan, has completed her MSc from Cardiff University. She is a lecturer in the Department of Physical Therapy at the College of Applied Medical Sciences, Najran University, Saudi Arabia. She is currently a PhD student at the Medical School, Faculty of Health and Life Sciences, University of Exeter.