A Scoping Review of the Predictors and Barriers to Actual Use of the Upper Extremity for Individuals with Stroke Living in the Community

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Introduction

Stroke is one of the leading causes of long term disability worldwide (Johnston, Mendis, & Mathers, 2009). Millions of people experience lifelong impairments post-stroke including a vast range of physical, cognitive or socioemotional deficits which can result in decreased function and independence. (Törnbom, Hadartz, & Sunnerhagen, 2017). Through intensive rehabilitation, it is possible to overcome such obstacles but unfortunately, research suggests that individuals who have had a stroke do not use their affected upper extremity in their daily lives to the extent that they are capable of (Rand, & Eng 2012). Conducting a scoping review on the available qualitative and quantitative data on this topic would clarify these influencing factors and identify gaps that could direct future research.

Methods

Covidence, an online platform for group research, was used to collaboratively manage the screening and review process.

Participants

688 community dwelling post stroke participants were obtained from the 13 studies used. Studies were drawn from 8 countries total. All participants were between 1 week and 5 years post stroke. Study designs were varied, including RCT, cross sectional, longitudinal, and qualitative studies.

Results

Increased motor and functional capacity were predictors of actual affected upper extremity use in nine studies and lack thereof found to be a barrier in three.

Overall activity levels predicted more actual affected upper extremity use in three studies, whereas inactivity was found to be a barrier in two.

Positivity, effort and less perceived impairment were predictors of actual affected upper extremity use, whereas perceived impairment and no access to supportive professionals were found to be barriers in two qualitative studies.

Hand dominance had no significant relationship with actual affected upper extremity use in three out of four studies.

Comorbidities, living arrangement, time post-discharge and post-stroke shoulder pain were found to be insignificant.

Discussion

Based on existing research, actual affected upper extremity use is shown to improve along with underlying motor and functional capacity. However, studies also highlight the significance of activity level, mindset, and proprioception. These are the most significant predictors that may determine the lack of actual upper extremity use in those that still demonstrate high capacity. Given the scarcity of available research, more studies will need to be performed to affirm the findings of this review.

Conclusion

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See provided reference sheet.