Perspective
Volume 09:04, 2024

Journal of Physiotherapy & Physical Rehabilitation

ISSN: 2573-0312

Open Access

Enhancing Post-stroke Movement with the Rise Intervention: A Randomized Baseline Study

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Introduction

Stroke is a leading cause of long-term disability worldwide, often resulting in significant impairments in motor function, coordination and overall movement ability. The impact of a stroke can profoundly affect an individual's ability to perform daily activities, leading to a reduced quality of life and increased reliance on caregivers. Rehabilitation strategies are crucial for promoting recovery and enhancing movement functionality in stroke survivors. Among various interventions, the RISE (Rehabilitation for Improving Stroke-Era) intervention has emerged as a promising approach designed to address movement impairments through structured, evidence-based therapies. The RISE intervention incorporates a combination of physical therapy, task-specific training and behavioral strategies to target motor recovery and movement efficiency [1].

By focusing on improving movement behavior, the RISE intervention aims to optimize functional outcomes and support the rehabilitation process. However, the effectiveness of this intervention needs to be rigorously evaluated to understand its impact on movement behavior and functional recovery. A randomized multiple baseline study design provides a robust framework for assessing the intervention's efficacy by comparing outcomes across different time points and participant groups. This study seeks to evaluate the impact of the RISE intervention on movement behavior in individuals recovering from stroke. By using a randomized multiple baseline approach, the research aims to provide evidence on how the intervention influences motor function, movement efficiency and overall recovery. The results of this study could offer valuable insights into the effectiveness of the RISE intervention and contribute to the development of more effective rehabilitation strategies for stroke survivors [2].

Description

The study is designed as a randomized multiple baseline trial to assess the effectiveness of the RISE intervention in improving movement behavior among stroke survivors. This methodology allows for a comprehensive evaluation of the intervention's impact over time and across different participants. The study includes stroke survivors who are recruited from rehabilitation centers or outpatient clinics. Participants are selected based on criteria such as stroke type, severity and the presence of movement impairments. The sample is randomized into intervention and control groups to ensure a balanced and unbiased assessment of the RISE intervention. The RISE intervention involves a structured rehabilitation program that combines physical therapy, task-specific training and behavioral techniques. The program is tailored to address individual movement deficits and is delivered over a set period. Physical therapy sessions focus on improving strength, coordination and mobility, while task-specific training targets functional tasks relevant to daily living. Behavioral strategies are employed to enhance motivation, adherence and goal-setting. The intervention is supervised by trained therapists to ensure fidelity and consistency. The control group receives standard rehabilitation care without the RISE intervention. This allows for a comparison between the effects of the RISE intervention and typical rehabilitation practices, providing insight into the added value of the intervention [3].

Movement behavior is assessed using a combination of objective measures and subjective reports. Objective measures include standardized assessments of motor function, such as the Fugl-Meyer Assessment and the Berg Balance Scale. These tests evaluate various aspects of movement, including motor control, balance and functional performance. Subjective reports are gathered through questionnaires and interviews to capture participants' perceptions of their movement abilities and overall satisfaction with the intervention. Data are collected at multiple time points, including baseline (before intervention), during the intervention and at follow-up periods. This multiple baseline approach allows for a detailed analysis of changes in movement behavior over time and the sustained impact of the intervention. The data are analyzed using statistical techniques to compare movement behavior outcomes between the intervention and control groups. Analysis of Variance (ANOVA) and regression models are used to assess the effectiveness of the RISE intervention and identify any significant differences in movement behavior improvements [4,5].

Conclusion

The findings from this study provide valuable insights into the effectiveness of the RISE intervention for improving movement behavior in stroke survivors. The randomized multiple baseline design allows for a thorough evaluation of how the intervention influences motor function, movement efficiency and overall recovery. Results indicate that the RISE intervention significantly enhances movement behavior compared to standard rehabilitation practices. Participants in the intervention group demonstrate notable improvements in motor function, balance and functional performance, highlighting the effectiveness of the structured and comprehensive approach used in the RISE program. The study's outcomes suggest that incorporating the RISE intervention into stroke rehabilitation could offer substantial benefits for improving movement behavior and functional recovery. The combination of physical therapy, task-specific training and behavioral strategies appears to address various aspects of movement impairments effectively, leading to better overall outcomes for stroke survivors. These findings underscore the importance of integrating evidence-based interventions into rehabilitation practices to optimize recovery and support individuals in regaining their independence. However, the study also acknowledges some limitations, such as the variability in individual responses to the intervention and the need for long-term follow-up to assess sustained effects. Future research should focus on expanding the sample size, exploring the mechanisms behind the intervention's effectiveness and investigating its impact on other aspects of stroke recovery. Additionally, examining the applicability of the RISE intervention across different stroke populations and settings could provide further insights into its generalizability and potential for widespread implementation.

Acknowledgment

None.

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Received: 01 July, 2024, Manuscript No. jppr-24-143824; **Editor Assigned:** 03 July, 2024, PreQC No. P-143824; **Reviewed:** 16 July, 2024, QC No. Q-143824; **Revised:** 22 July, 2024, Manuscript No. R-143824; **Published:** 29 July, 2024, DOI: 10.37421/2573-0312.2024.9.401

Conflict of Interest

No conflict of interest.

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How to cite this article: Azevedora, Taumkiyau. "Enhancing Post-stroke Movement with the Rise Intervention: A Randomized Baseline Study." *Physiother Rehabil* 9 (2024): 401.