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Efficacy of Early Mobilization in Acute Care

Brianna Byrd
Western Michigan University, brianna.r.byrd@wmich.edu

Lauren Korte
Western Michigan University, lauren.a.korte@wmich.edu

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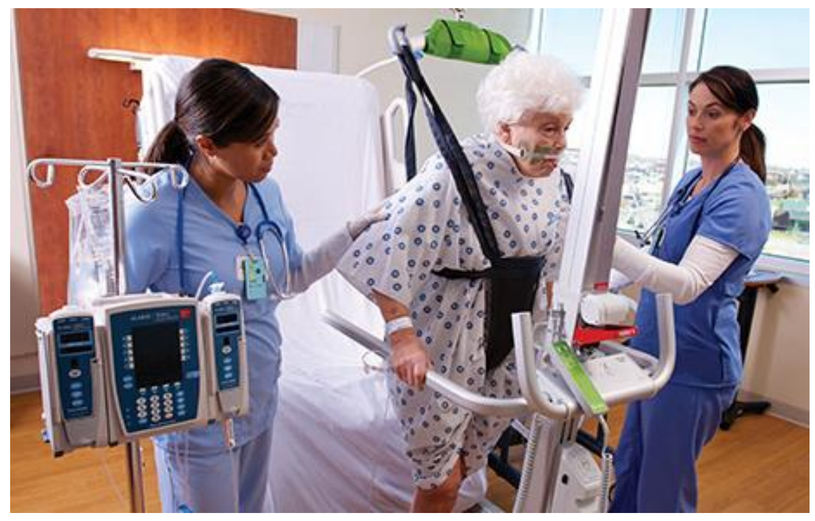
Western Michigan University

Case:
A 53-year-old female was hospitalized after suffering a R CVA resulting in L hemiplegia and cognitive impairments. She has been stabilized and is in an acute care rehabilitation setting to regain strength and functioning. The rehabilitation team, including occupational therapists, are debating if implementing an early mobilization treatment plan, within 24 hours of onset, would be beneficial for improving function.



1Ask: Research Question

What is the efficacy of early mobilization for patients in an acute care setting?

2aAcquire: Search Terms

Keywords: Early Mobilization, Occupational Therapy, Acute Care, Stroke, Orthopedics, Rehabilitation, Mobilization, Function, Early Rehabilitation, Mobilize

Databases:
Clinical Key, Scopus, PubMed, CINAHL Complete

Patient: Acute care
Intervention: Early mobilization
Comparison: Delayed mobilization or standard mobilization
Outcome: Increased function, faster progress in functional status

2bAcquire: Selected Articles

Chippala & Sharma (2016):
A randomized controlled trial (RCT) that evaluated the effect of early mobilization on functional status following an acute stroke.

Guerra, Singh, & Taylor (2015):
A systematic review that compared five RCTs to determine if early mobilization impacts function and leads to a shorter hospital stay in clients following hip or knee replacement.

Li, Zhang, Wang, & Wen (2018):
A meta-analysis of six RCTs that examined the effect of early mobilization following acute stroke.

3aAppraise: Study Quality

Chippala & Sharma (2016):
Level II, single blinded RCT (n=86). Data collected using Barthel Index (BI) at baseline, at discharge, and at a three month follow-up. Only six participants dropped out before the three month follow up. Significant and clinically applicable results were observed. Limitations: limited external generalizability, low power and longer follow up not undertaken.

Guerra, Singh, & Taylor (2015):
Level I, systematic review of five RCTs. Included four high quality trials, out of five. Moderate quality evidence which is less subject to bias. Limitations: potential selection bias, some trials had small sample sizes, potential for greater applicability to clients with knee replacement surgery.

Li, Zhang, Wang, & Wen (2018):
Level I, meta-analysis of six RCTs. Quality of evidence was determined significant by the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) system. Further research was noted necessary for outcomes in this study. Limitations: differences on intervention protocols, small number of included studies.

3bAppraise: Study Results

Chippala & Sharma (2016):
The intervention group demonstrated significant improvement in functional status at discharge ($p<.001$) and at three months follow up ($p<.001$) compared to the control group. Based on BI scores at 3 months follow up, 85% of the intervention group were independent in activities of daily living compared to 45% of clients in the control group ($p<.01$).

Guerra, Singh, & Taylor (2015):
Early mobilization, compared to the control, was effective in reducing the length of stay by 1.8 days on average. Range of motion, gait, balance, and muscle strength showed greater gains in the experimental group compared to the control group. All five RCTs were beneficial. Specifically, in one RCT, gait ($p<.047$) and balance ($p<.045$) demonstrated significant improvement in the intervention group compared to the control group.

Li, Zhang, Wang, & Wen (2018):
Early mobilization was superior in BI scores and shorter hospital stay for stroke clients compared to standard care. Standardized mean differences of BI was .66 (P heterogeneity<.001). Stroke clients with early mobilization were discharged almost two days earlier than the control group (weighted mean difference: -1.97, P heterogeneity = .31). Modified Rankin Scale scores showed no significant differences between groups (relative risk: .80, P heterogeneity = .12).

4Apply: Conclusions for Practice

Based on the findings, research supports the effect of early mobilization on clients in an acute care setting. Early mobilization appears to be effective in improving function in clients following a stroke or hip or knee replacement surgery. Future research is needed to examine the effect of early mobilization on other conditions, as well as to determine how much therapy gives the best results.

Early mobilization appears to be an effective intervention during treatment resulting in increased function for clients who are recovering from a stroke or hip/knee replacement.

References:
Chippala, P., & Sharma, R. (2016). Effect of very early mobilisation on functional status in patients with acute stroke: a single-blind, randomized controlled trail. *Clinical rehabilitation*, *30*(7), 669-675. https://doi-org.libproxy.library.wmich.edu/10.1177/0269215515596054
Guerra, M. L., Singh, P. J., & Taylor, N. F. (2015). Early mobilization of patients who have had a hip or knee joint replacement reduces length of stay in hospital: a systematic review. *Clinical rehabilitation*, *29*(9), 844-854. https://doi.org/10.1177/0269215514558641
Li, Z., Zhang, X., Wang, K., & Wen, J. (2018). Effects of early mobilization after acute stroke: a meta-analysis of randomized control trials. *Journal of Stroke and Cerebrovascular Diseases*, *27*(5), 1326-1337. https://doi.org/10.1016/j.jstrokecerebrovasdis.2017.12.021

College of Health and Human Services
Department of Occupational Therapy
Western Michigan University