

Physical Fitness Training for Stroke Patients

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Stroke is a critical health condition that is a notable cause of chronic disability in adults. This is evident in the United States where it is a principal contributor to long-term disability; second major contributor to dementia, and the fourth dominant contributor to deaths in the country. From a global perspective, the impact of stroke is far-reaching despite the fact that the overall approximation of the effect varies widely and are not consistently reliable. According to statistics, the prevalence of stroke in the United States is approximately 3% of the American adult population, which makes up seven million individuals (Ovbiagele & Nguyen-Huynh, 2011). Concerning incidence, 800000 cases of first-time and recurring strokes occur annually in the United States, with the bulk of the cases being made up of first-time stroke (an estimated 600000 incidences). Of the stroke incidences estimated 3% are subarachnoid hemorrhage, 10% primary hemorrhages, and 87% ischemic infarctions (Ovbiagele & Nguyen-Huynh, 2011).

It is noteworthy that stroke has an enormous impact on the patients' life quality and daily living activities. As such, survivors of stroke cases undergo rehabilitation with the aim of restoring the quality of life and their ability to engage in daily living activities. After the restoration, a significant number of patients tend to walk independently. Nonetheless, there is also a significant number of patients who develop residual walking disabilities. As cited in Vloothuis and other (2014), following the rehabilitation only 7% can walk appropriately. Additionally, 28% of patient remain dependent in their daily living activities such as indoor mobility, toileting, and dressing (Vloothuis et al.,2014). With this problem, most of the patients who leave rehabilitation live at home permanently because of their inactivity. It is clear that there is need to reduce the burden associated with stroke for patients, caregivers, and the community by using any intervention that promotes functional outcome.

To solve the disease burden issue, there exists a broad body of knowledge that emphasizes on the effectiveness of highly intensive exercise therapy in achieving a functional outcome in people with stroke (Vloothuis et al.,2014). In line with this, training that is mediated by nurses has been termed as a resource-efficient intervention. This will ensure that the patient and caregiver exercise together thus augmenting practice intensity without rocketing the healthcare cost. Additionally, in the physical fitness training, the caregivers are actively engaged as compared to standard rehabilitation services. From a system point of view, this solution for stroke patients will also reduce the inpatient length of stay, and improve the outcome in areas such as empowerment, self-management, and the quality of life for the caregiver and patients too (Vloothuis et al.,2014).

Change Model Overview

Theoretically, evidence-based practice is a foundational principle in the nursing practice; however, the challenge is rooted in putting it into practice. The ACE Star Model of Knowledge Transformation (ASM) is a model for comprehending the phases and attributes of knowledge used in various facets of evidence-based practice (EBP). It is essential to note that the ASM model is critical in changing practices (Stevens,2013). It aligns both traditional and new concepts of care improvement into a whole and puts forth a model which guides the organization of the processes and strategies of EBP. At its basic, this ACE Star Model is a simple, close depiction of the association between the phases of knowledge transformation, as new novel knowledge is appropriated in practice (Stevens, 2013).

Furthermore, the process takes into account the typical processes and also promotes the unique elements of EBP. The model incorporates nursing's previous scholarly work within the EBP context, takes the critical role of an organizer for applying and assessing EBP, and

mainstreaming nursing into an official EBP network (Stevens, 2012). The ASM shows knowledge forms in a relative sequence, as study evidence moves through some phases, integrated with other knowledge and existing practice. Per se, this model is instrumental and should be used by nurses as it assists in systematically operationalizing EBP processes. The processes are made up of five main stages including “discovery research, evidence summary, and translation to guidelines. Practice integration, and process outcome assessment” (Stevens, 2012).

The scope of the EBP

As aforementioned, stroke is a principal contributor to death, dementia, and disabilities among patients. Those who survive stroke have been rehabilitated with the aim of restoring their capability to engage in daily life events and foster their life quality. Despite being cared for at the rehabilitation centers, most of the stroke patients have restored their physical mobility. 7% is the fraction of patients whose physical movement is restored through rehabilitation programs (Vloothuis et al.,2014). However, there is a significant portion of these patients who are unable to be mobile. Apart from the mobility issue, 28% of those who are discharged from rehabilitation program remains fully dependent whereas 32% of the patients become inactive and are confined to their homes (Vloothuis et al.,2014). These clinical outcomes have a negative impact on healthcare on a broader scale. With the unsatisfactory patient outcome, there have been an increase in the length of stay inpatient, increased dependency in carrying out daily life activities, and increased burden of the disease on the part of patients and caregivers.

Stakeholders

- Patient
- Caregiver
- Physical therapist

The responsibility of Team Members

Patients: these are critical members of the team because the program is designed for their benefit. As such, this member of the team has the role of maintaining constant cooperation and dedication to the new physical mobility rehabilitation approach.

Caregiver: this team member is important to the project as he or she will be in constant contact with the patient. The caregiver plays the role of taking part in the physical fitness training program together with the patient, monitoring, and assisting the patient.

Physical therapist: This member of the team is also significant to the team as the project involves physical fitness training. In this regard, the physical therapist will act as a coach by instructing both the caregiver and patient on the best exercises to perform.

Evidence

Vloothius and colleagues (2014) conducted a systematic review with the objective of reducing the effectiveness of strength training exercises in the enhancement of the physical ability of patients who survived a stroke. The strength of this research is that conclusion was made from a wide range of scientific work available in different databases. This ensured that instances of biases were utterly eradicated.

Evidence Summary

Through the systematic review, Vloothius et al., (2014) intended to examine how physical fitness training would improve motor function, cut on the cost of healthcare, and engage caregivers in the rehabilitation process. According to their finding, it is evident that the performance of exercise by stroke survivors could improve patient's outcome. There is little evidence in the patient outcome as far as plasticity and strength are concerned. Additionally,

patients' activities of daily living and the management's cost-effectiveness need to be broadly studied.

Recommendation for Change Based on Evidence

From the evidence, it is evident that physical fitness training has a potential application in the restoration of physical mobility. Accordingly, the recommended change in practice based on evidence is that post-stroke patients need to be admitted into physical fitness training. This should be done under the directives of a physical therapist and with the association of the respective caregiver.

Translation

Action Plan

The recommended change will be incorporated into the current clinical practice associated with stroke restoration program through six main phases. The first phase of combining this intervention will be to obtain approval from the Institutional Review Board (IRB). The planning will then follow this and designing the program, which will entail harnessing of required resources. The third phase of this project will be reviewing research to determine the feasibility of the project; this will essentially entail doing a cost-benefit analysis of the project. The fourth stage of the project will be providing the caregivers and the patients with relevant education so that they are aware why they need to engage in physical fitness training. In this stage, the team members will meet for the first time. This will take one week. After this, the next phase will entail the actual implementation of the project for 12 months. This will end with the evaluation phased where the project will be evaluated.

Process, Outcome Evaluation and Reporting

Desired Outcome	Measurement	Reporting
Improve physical mobility	Observation of initial mobility and final mobility	Video recording, interview transcripts.
Cost-effectiveness of the intervention	Comparing the cost of previous and current intervention.	Charts

Identify Next Steps

After project evaluation, there will be a need to implement the project on a large scale. This will be made possible by presenting the recommendation and evidence to stroke rehabilitation centers and relevant government agencies. Of note, is that the project will be applicable in stroke-associated facilities. Nevertheless, the implementation will be made perpetual by spearheading changes in healthcare policies and guidelines that dictate the management of stroke complications.

Disseminate Findings

To communicate the finding internally, there will be a need to hold peer reviews, emailing all staffs related documentation, and providing print media to relevant stakeholders. Externally, submitting related papers concerning the rehabilitation of post-stroke complication in national and international conferences will be useful. Additionally, publishing of clinical practice paper on the internet will be another efficient way.

Conclusion

Stroke has an enormous impact on the patients' life quality and daily living activities. As such, survivors of stroke cases undergo rehabilitation with the aim of restoring the quality of life and their ability to engage in daily living activities. After the restoration, a significant number of patients tend to walk independently. Nonetheless, there is also a significant number of patients who develop residual walking disabilities. To solve the disease burden issue, there exists a broad body of knowledge that emphasis on the effectiveness of highly intensive exercise therapy in achieving a functional outcome. According to the evidence summary, the performance of exercise by stroke survivors could improve patient's outcome. To translate this into practice, a six-step action plan will be carried out. Also, it is essential to note that the process, outcome evaluation will evaluate the effectiveness of the project by measuring and reporting the desired outcomes. This will then be followed by practice integration endeavors such as implementing the practice on a larger scale and dissemination.

References

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