



ROLE OF PHYSIOTHERAPIST IN STROKE REHABILITATION

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ABSTRACT

There are various different methods for administering physiotherapy after a stroke, but they are all generally based on motor learning, neurophysiological, and orthopedic concepts. Others combine elements from a variety of various systems, while some physiotherapists base their treatment on a single methodology. Only a few research have looked at the best physiotherapy for stroke recovery. We should thus choose treatments that are the most affordable and that can be offered to the most patients up until new data becomes available. There is an urgent need for well-designed clinical trials to determine the optimal strategy and separate potential responders from non-responders.

KEYWORD: Stroke, Rehabilitation, Exercise therapy, ADL (Activities of daily living), CIMT (Constraint-induced movement therapy).

INTRODUCTION

A stroke is defined as an acute onset of neurological deficit that persists for more than 24 hours with no apparent cause other than that of vascular origin. It is the second most frequent cause of mortality and the third most frequent cause of disability. The main symptom of a stroke is hemiparesis. It is the third most common cause of disability and the second most common cause of mortality.^[1] Hemiparesis is the main sign of a stroke. Additionally, depending on where it occurs, a stroke can have a negative impact on language, perception, motor function, perception, and cognition. About 69% manifested upper-limb dysfunction.^[2]

Physiotherapy in stroke rehabilitation

The field of physiotherapy is well-established in stroke recovery, although questions still exist regarding the ideal level of therapy input intensity. A wide variety of disabilities, including physiotherapy, have been proven to benefit from rehabilitation after stroke. Various techniques are applied to help the trunk, upper extremities, and lower extremities regain functional independence.^[3]

Physical therapy's primary goal is to help individuals and populations reach their full potential in terms of mobility and functional capacity during the course of their lives. When the effects of aging, an injury, or an illness endanger movement and function, physical therapy treatments are also provided. What it means to be healthy lies at the core of full and functional motions.^[4]

In rehabilitation facilities, treating stroke victims who are disabled is a key area of focus. According to studies, 96% and 79% of stroke patients who are admitted to the hospital receive either physical treatment, occupational therapy, or both. The duration of such action is constrained, though. Less than a quarter of a day is dedicated to physical activity for stroke patients in rehabilitation facilities. Studies conducted internationally over a long period of time have indicated that stroke patients spend very little time in therapy and in touch with therapists during working hours, despite the fact that suggestions to increase active therapy time are included in clinical guidelines for stroke management.^[3] Less than a quarter of a day is dedicated to physical activity for stroke patients in rehabilitation facilities. In spite of the fact that clinical guidelines for stroke management include suggestions to maximize active therapy time, studies conducted internationally over a long period of time have demonstrated that stroke patients spend very little time in therapy and in contact with therapists during the workday.^[4]

The available research on physiotherapy's effectiveness in stroke recovery has been classified into two main categories: (1) the type of physiotherapy, and (2) elements of therapy programs, such as early intervention, intensity, and service type.

Types of physiotherapy approach like Bobath, Rood, Brunnstromm, etc.; these approaches have developed from observation and clinical experience and are

primarily based on assumptions about motor control rather than scientific theories. They propose various types of motor activity, and the tasks are facilitated by therapists using a combination of handling techniques and learning strategies. Re-educating people in functional duties and everyday movement is the goal.

Both of these techniques are strongly opposed by Bobath because he thinks that they promote abnormal movement. In her therapy plan, Brunnstrom uses related reactions, while Kabat promotes muscle-resisted activities. The effects of treatment must be evaluated at this level since physical therapy is primarily targeted at motor control during the acute stages of stroke recovery. If the primary outcome measure is an activity of daily living scale, the effectiveness or lack of this input can be readily overlooked.^[5]

Physiotherapy technique

Constraint-induced movement therapy (CIMT):

Physical therapy regimens that use constraint-induced movement therapy (CIMT) or modified variants of CIMT (mCIMT) are currently thought to be the most successful for treating upper paretic limbs⁶. It is a method of stroke therapy that involves restricting the unaffected arm while forcing the injured arm to be used and practiced repeatedly⁷. The goal of CIMT is to improve the function of the stroke-affected limb by forcibly using the affected side and limiting the use of the healthy limb.^[8]

Modified CIMT (mCIMT) is a less intense form of CIMT that uses the same basic concepts as CIMT (i.e., the constraint of the upper extremity that is less affected and practice of functional exercises for the more affected extremity), but for a shorter period of time.^[9] Treatment sessions for mCIMT range from two to seven sessions per week for two to twelve weeks, lasting anything from thirty minutes (33-35) to six hours (36-44) per day.^[6]

Rood's approach

Margret Rood created Rood's method, a neurophysiologic and developmental therapeutic strategy, to enhance the muscular tone in both flaccid and spastic individuals.^[10] and their approach can be divided into two categories: movement facilitation and movement inhibition.^[11] Four fundamental ideas served as the foundation for Rood's strategy: repetition, ontogenic developmental pattern, normalization of muscle tone utilizing sensory input, and intentional movement. According to Rood, the sensory stimulus can facilitate or restrict the receptor's ability to become activated or deactivated, resulting in the desired muscle response.^[12]

The activities of daily living (ADLs):

The phrase "activities of daily living" (ADLs) refers to a group of basic life abilities, such as eating, bathing, and moving around independently.^[13] Sidney Katz initially used the phrase "activities of daily living" in 1950.^[14]

The chores of daily living also included shifting beans, making tea or coffee, folding tops or bottoms, and buttoning and unbuttoning.^[15]

Brunstrom technique:

Early in the 1950s, a physical therapist from Sweden created Brunnstrom's method.^[16] Brunnstrom applied the theory of motor control and patient observations.^[17] The Bobath method firmly forbids the employment of any techniques that are based on resistance training or repetitive training of automatic reflexes.^[18] However, no comparative study has shown that one of these strategies is better than the others.^[19]

Exercise therapy:

Every recovery program must include exercise.^[20] According to one definition, exercise therapy is "physical activity that is typically regular and done with the purpose of improving or maintaining physical fitness or health."^[21] consists of resistance, assisted resistance, assisted-resisted assisted-resisted active resistance, and passive resistance.^[22] The methods should be used in functional movement directions or anatomical planes.^[23]

CONCLUSION

The majority of survivors face challenges as a result of their handicap during the challenging and prolonged recovery process following a stroke. There is also evidence that a physiotherapy intervention, combining components from several modalities, significantly outperforms neither no treatment nor a placebo control in the recovery of functional independence after stroke. Physiotherapist has a major role in stroke rehabilitation through physical therapy to concentrate on the problems that impede a patient from completely integrating into society, such as enhancing career support and going back to work.

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