

RESEARCH ARTICLE

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Assess the Awareness of Physiotherapists Regarding the Effects and Utilization of Different Physical Therapy Strategies Among Stroke Survivals in Karachi, Pakistan

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Abstract

Stroke is known as cerebro vascular accident (CVA). It's focused neurological deficit which usually happens due to lack of blood supply towards the brain. Physical therapy is a successful way to rehabilitate the patients and brings him back to the normal life. A cross sectional survey was conducted in different hospitals of Karachi, data was collected from January to May 2014. A self-constructed proforma was filled by 100 physiotherapists, and Spss version 23 was used. The majority (n=64, 64%) were male and (n=69, 69%) belongs to age group of 34- 44. In marital status (n=79, 79%) were married, in education (n=78, 78%) were post-graduate. After checking their awareness we found that majority (n=84, 84%) were aware. The study finalized that majority of physiotherapist were aware about the effects and utilization of different physical therapy strategies used among stroke survivals.

Keywords: Stroke, physical therapy, strategies, Karachi, Pakistan.

INTRODUCTION

Stroke also known as cerebrovascular accident (CVA). Its focused neurological deficits which causes the non-functioning of brain due to lack of blood supply towards the brain [1]. The lack of blood supply can be due to the thrombus present in the blood or due to the rupture of artery as a result there will be loss of sensation as well as motor skill, which mainly depends upon the involvement of area. Mainly the stroke is differentiated into two main types ischemic and hemorrhagic[2]. In ischemic stroke the reduced blood flow towards the brain is caused by the emboli (a free floating blood clot present in the artery) and it accounts for 87% [3, 4]. In hemorrhagic stroke the reduced blood flow towards the brain is caused by the rupture of concerned artery and it accounts for about 13% [5]. The typical clinical symptoms for the stroke are the sudden onset of numbness or weakness in face, limbs, confusion, troubling in speech, loss of balance and coordination [6, 7]. The causative factors for the stroke are mainly, ageing, heredity, hypertension, increased level of cholesterol, obesity, excessive use of alcohol and smoking [7, 8]. Males are more prone to suffer from stroke as compare to females, however the more mortality rate was observed in

females [2, 7]. Annual incidence of stroke in Pakistan is 350,000 [7, 9, 10]. In United States 140,000 deaths are being reported annually due to stroke [11]. Typically the stroke is diagnosed tools are mainly physical assessment, computerized tomography (CT scan) Magnetic resonance imaging (MRI) ultrasound of carotid artery and Arteriography [7, 12].

Management of stroke includes clot breaking drugs especially in first 6 to 24 hours like plasminogen activator which is also a gold standard for the ischemic stroke, in sever condition it needs surgery even. The physical therapy is required along with both pharmacological and surgical intervention, in order to rehabilitate the patient's sensory and motor skills [13-15]. The physical therapy management includes, Bobath approach which helps to improve the motor control by sensory and motor pathways stimulation. Makes the activity or movements easy and to get normal muscle tone [16-18]. Conductive treatment approach applied on patients who have motor disorders. It involves the repetition of tasks several times to enhance learning, it is also used to improve movement difficulties by involving psychology knowledge [19, 20]. Carr

and shepherd approach encourages active participation, Helps to improve functional ability and daily activities by specifying tasks [20, 21]. The Brunnstorm approach helps to improve motor functions by improving pattern of motion and by enhancing muscle activation [20, 22]. The constraint induced motion enhances the working capacity by utilizing the weaker body part or muscle constraint-induced movement therapy (CMT) provides a vehicle for objectively testing the efficacy and utility of rehabilitation intervention. It also provides a platform for designing and testing further advances in rehabilitation intervention. Finally, by correlating improvements on motor performance after CIMT with functional neuroimaging, CIMT provides the opportunity to demonstrate functional imaging as a surrogate outcome measure to utilize in clinical trials of rehabilitation intervention [20, 23].

MATERIALS AND METHODS

Study Design, Settings, and Duration: A cross sectional survey was conducted from January to May 2014 and data was collected from the different hospitals of Karachi Pakistan namely (Jinnah post graduate medical Centre, National institute of cardio vascular diseases, Dr. Ruth K. M. Pfau, Civil Hospital Karachi, National institute of child health, National medical Centre, Dow university hospital main campus and Ojha campus.

Sampling: Convenient Non-Probability Sampling Technique was used among 100 male & female physiotherapists who were agreed to participate in the study, while, physiotherapist unwilling to sign inform consent were excluded.

Table 1: Demographic Characteristics

Characteristics	Frequency	Percentage
Age group		
23 -33 years	28	28
34-44 years	64	64
45 and above	08	08
Gender		
Male	69	69
Female	31	31
Marital status		
Married	79	79
Unmarried	21	21
Education		
Graduate	22	22
Post-graduate	78	78
Doctorate	00	00

Response to effects and utilization of different physical therapy strategies among stroke survivals

Response to physiotherapy Awareness items are described in table 2, which states that the majority (n=72, 72%) were aware regarding the basic aim of physiotherapy which is to rehabilitate the patients to his previous normal movements. The (n=67, 67%) were also aware about PNF/BRUNSTORM technique which is frequently used in stroke patients. The role of physiotherapy, is to facilitation of postural adjustment, prevention of neuro muscular complications, normalize the tone of stroke affected patient, majority (n=88, 88%), (n=79,

Data Collection Tool: A self-constructed proforma was used to collect the data, which include the demographic Characteristics (age, gender, education & marital status) while the included disease awareness observational characteristics were (basic aim of physiotherapy, frequently used techniques for stroke, role of physiotherapy in facilitation of postural adjustment, prevention of neuro muscular complications, normalize the tone of stroke affected patients, role of passive and active assisted movements, and the progress of physical therapy techniques among stroke survivals).

Data Collection Procedure: During the data collection, participants were asked to fill the questionnaire on the spot.

Data Analysis Procedure: Data was analyzed and presented in frequency and percentages for categorical variables & Spss (Statistical Package for Social Sciences) 23 version was used.

Ethical Consideration: Permission for data collection from the medical superintendent of respective hospitals were taken. The approval for this study was taken from the ethical review committee of Isra institute of rehabilitation sciences, Isra University Karachi, Pakistan.

RESULTS

Demographic Characteristics

Demographic Characteristics are described in table 1, which tells that the majority (n=64, 64%) belongs to age group between 34-44 years, (n=69, 69%) were male and after checking the marital status we found that (n=79, 79%) were married. In education (n=78, 78%) physiotherapists were post-graduate.

79%), (n=97, 97%) were aware. The majority (n=96, 96%) of physiotherapists agreed and were aware that the Active assistive movement Can improves the patients muscle strength quickly and more effectively as compare to passive movements. Majority (n=86, 86%) were aware that, if patient is unable to perform active assisted passive range of motion exercises are more important than active assisted. In determination of recovery of stroke patients majority (n=77, 77%) were aware and agreed that Accuracy of movement, Speed, Strength and Endurance are important aspects.

Table 2: Response to effects and utilization of different physical therapy strategies among stroke survivals

Variable	Correct	Incorrect
	N (%)	N (%)
The basic aim of physiotherapy is to rehabilitate the patients to his previous normal movements.	72(72)	28(28)
PNF/BRUNSTORM technique is used frequently in the patients of stroke.	67(67)	33(33)
physiotherapy Can facilitate the postural adjustment	88(88)	12(12)
physiotherapy Can prevent the neuromuscular complication	79(79)	21(21)
physiotherapy Can normalize the tone of stroke affected patient	97(97)	03(03)
Active assistive movement Can improves the patients muscle strength quickly and effectively	96(96)	04(04)
Passive range of motion is more important if a patient cannot perform the active assisted.	86(86)	14(14)
Accuracy of movement, Speed, Strength and Endurance are the important aspects in determining the progress of stroke patient	77(77)	23(23)

Note: Rating of Awareness was done by giving 1 to correct answer and 0 to the incorrect answer. The scoring range of Awareness questionnaire was consist of maximum 8 and minimum 0. The 5 and below points was considered as unaware, whereas the 6 and above was considered as aware regarding awareness of physiotherapist regarding the effectiveness of physical therapy in stroke survivals.

Awareness Regarding the effects and utilization of different physical therapy strategies among stroke survivals

Awareness Regarding effects and utilization of different physical therapy strategies among stroke survivals are

described in table 3, which states that the Majority of participants (n=801, 96.4%) were aware to the effects and utilization of different physical therapy strategies among stroke survivals.

Table 3: Awareness regarding the effects and utilization of different physical therapy strategies among stroke survivals

Variable	Frequency	Percentage
Aware	84	84
Un aware	16	16

Cross tabulation between the demographics and awareness

Cross tabulation between the demographics and awareness is described in table 4, which states that the Majority (n=51) were

aware and belongs to age group of 34 -44 years and (n=59) were male. After checking their marital status we found that (n=68) were married. In educational status the majority (n=77) were post graduate-graduate students.

Table 4: Cross tabulation between the demographics and awareness.

Characteristics	N	Aware	Un- aware
Age group			
23 -33 years	28	20	08
34-44 years	57	51	06
45 and above	07	07	00
Gender			
Male	69	59	10
Female	31	25	05
Marital status			
Married	78	68	10
Unmarried	22	16	06
Education			
Graduate	22	16	06
Post-graduate	78	77	10
Doctorate	00	00	00

DISCUSSION

In this study we finalized that majority (n=86, 86%) of our participants were belonging to physiotherapy profession and were found well aware about the effects and utilization of different physical therapy strategies used among stroke survivals. The studies conducted in different parts of the world by Oyama et al in 2016 and Lennon et al in 2003 and finalized that physiotherapy is found as a most successful way of treatment for the patients of stroke and the physiotherapists who are working with the stroke patients were found well aware about the strategies recommended by physiotherapy books for stroke patients[24, 25]. As the PNF/BRUNSTORM

technique is used frequently among the stroke patients and found widely effective in stroke survivals in order to rehabilitate the patients accuracy of movement[20-22].furthermore the normalization of tone, postural correction and prevention of neuro muscular coordination among the stroke survival is not possible with attending the physiotherapy sessions, and the techniques applied by the physiotherapists. Without implementation of different physical therapy strategies the re-education of motor learning skills is not possible and without motor functions a person is not able to move even[13, 16, 26].In physiotherapy approaches, first of all the mandatory recommendation for the

stroke survival is change of position of patient many times in day in order to reduce the constant pressure on body parts. In the start of exercise the active assisted exercise is recommended because the active movement is far better than passive exercise, if patient is unable to do so, than start from passive exercises because the passive exercises will bring the patient towards the active assisted exercises earlier. These exercises will help to regain the strength of muscle and relearn the skills[20, 26, 27]. Finally the assessment of given different physical therapy treatment its necessary to assess the strength of muscle along with accuracy and speed of movement, because the aim of physiotherapy is to rehabilitate the patient from stroke accident and make him as skillful an strong as like before.

CONCLUSION

The study finalized that the Physiotherapists who are working in different hospitals of Karachi are well aware about the effects and utilization of different physiotherapy approaches in stroke survivals.

RECOMMENDATIONS

In future the study should be conducted among the stroke survivals in order to know the quality of physical therapy treatment which is being delivered to them.

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Conflicts of Interest: The authors hereby declare there is no conflict of interest with this submission.

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