

# Rehabilitation of Female Stroke Patients through Simple Motor Activities

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## ABSTRACT

Art signify as a various approach in the creation and is influenced by the individual perception as well as their personality and temperament. Art activities have an existing and optimistic impact in psychological and physical muscle.. Objective of this study was to assess the improvement in Gross and fine motor development of female stroke patients before and after intervention through art activities. This study was quantitative in nature. Mild category of Stroke patients from the rehabilitation centre were the population of this study. Two rehabilitation centres were selected on a convenient basis 30 female stroke patients was total sample size of the study. A checklist was made for the patients to recognize the before and after improvement in motor development of fine muscles. Data was entered in SPSS (Statistical Package for Social Science) .The percentages was calculated before and after intervention improvement of motor skills of female stroke patients and Statistically Paired sample T-Test were find significant value of progress through art activities. The result indicated that the  $P 0.000 < 0.05$  there is a strong significant differences of gross and fine motor development before and after intervention through art activity. It could be concluded that art therapy is fast and quickly developing field related of Art and medical science.

**Keywords:** *Art activities, Art therapy, Gross and Fine Development, Stroke patients, Motor development*

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## 1. INTRODUCTION

Art activity is the creation of works of beauty or other special significance and any specific skill or its application. Art therapy is a significant way to enhance the person cognitive and emotional functions. The innovative procedure of art help to people determine the health connected issues and manage their anxiety, diminish tension, thoughts and as well as improve quality of life. According to Keller et al 2000 "Art treatment help to reduce psychological disabilities throughout non- vocal dealing procedure. Stroke patients gradually abide constant sadness and grief, in other can be accompany by different directions such as loss of appetite, falling and weak strength of muscles, too much or over eating , restlessness , too much sleeping , low self –esteem and concentration deficit disorders." The World Health Organization (WHO) estimate around that stroke events in EU countries are probable to increase by 30% between 2000 and 2025 (Truelsen et al., 2006). General appearance of motor injury includes muscle weakness or contracture, changes in muscle tone, joint laxity, and damage motor control. Horovitz (2005) presented an account of art therapy that addressed purposeful treatment objectives as well as emotional revival post-stroke. Gross and fine motor skills are two separate types of motor skills. Rehabilitation moves towards optional as major treatment interference on the foundation of current substantiation for recovering motor outcome, are muscle reinforcement exercises. This research assesses the improvement in Gross and fine motor development of female stroke patients before and after intervention through art activity. Motor development relates to the bones, joints, strength and weakness of the muscles.

This research paper present surface information of patient's rehabilitation through art and assist improvement the muscles power of the person and mental and physical health issues. So there is a need for a detailed study / examination because it will provide multi-disciplinary approach to the treatment as well as will help to the guidelines making strategy to psychotherapy.

## 2. METHODOLOGY

Art therapy makes it potential to examine improvement in motor function and provides strong motivation for a patient to improve his or her on a daily basis ability .Motor ability the foundation of several physical improvements which is an intended association connecting a motor muscles power and strength factors. (Connolly & Montgomery, 2005).

This research study was a quantitative in nature, which be designed to assess the use of art activities for rehabilitation of gross and fine motor skills for female stroke patients. Art activities design according to gross motor development to improve the joint, bone, muscle, and motor functions of activities of daily living (ADL). Mild category of Stroke female patients from the rehabilitation centre were the population of this study. Two rehabilitation centers were selected on a convenient basis and where 15 female stroke patients were selected from each rehabilitation centre that's mean 30 female from both rehabilitation center. So the Thus total sample size of the study was 30

Female stroke patients, who were directly related to the rehabilitation centre, were the respondents for the research.

In this research study tools to assess the parameter of components of variable are Checklist and Observation method. Muscles strength assessment of Gross and fine motor development was judgment with the help of grade. The design level of grade was given in the book of Musculo skeletal Assessment Joint and Motion and Muscles testing by: Hazel M.Clarkson. Third edition page #96. Motor development was judged against the following levels.

- 1 A prolonged firm muscle contraction =Level 2
- 2 Maintains the test position against gravity =.Level 3
- 3 Maintains the test position against gravity and moderate resistance.= Level 4
- 4 Maintains the test position against gravity and maximal resistance.=Level 5

Data was collected through observation and checklist method. Letter head for the permission of data collection from the selected rehabilitation centers was taken in order to conduct a proper procedure. The checklist was also marked by the researcher after observing the movement of patients.

#### Procedure

According to the Collins dictionary art is the exercise of human skill (as distinguished from nature). Motor art activities were designed for female patients according to her muscles improvement. A checklist was based on duration of months and affected body side of stroke patients. The observation involved 30 stroke female patients before and after intervention improvement in motor development of fine muscles. Before result showed only observation without performance of any activity and after result showed the activity performance of four months. Activities were performed by patients under the supervision and guidance of the researcher and improvement of in their muscles, according to grades was verified by physiotherapist for 4 months. They recognized developments occurred after art therapy in patients

Stacking and hitting cups Activity for Gross Motor Development (One such method is sport stacking (Udermann, Mayer, Murray, & Sagendorf, 2004).Sport stacking participants work with 12 specialized cups, using both hands to make a pyramid ("up stacking") and then returning the cups into stacks ("down stacking"). This must be done in predetermined sequences



Figure 1.

#### Development

Balance and co-ordination- Balance and coordination development of the body as they begin developing coordination with grasping your fingers and balance the body.

Stretching rubber bands Activity for Fine Motor development

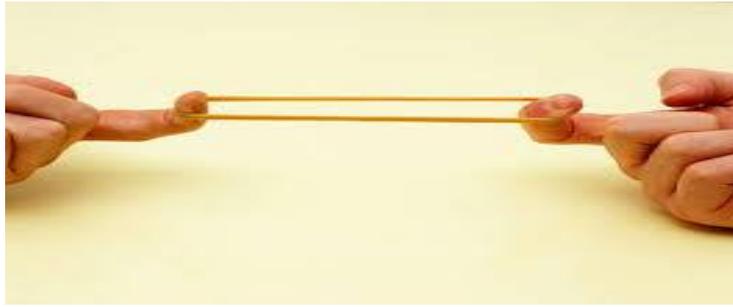


Figure 2.

*Development*

Strengthening finger muscle- Smaller muscles within the palm of the hand control the more refined movements of the thumb and fingers. Pinch strength involves the thumb and finger

VARIABLE

Independent and dependent variable were used.

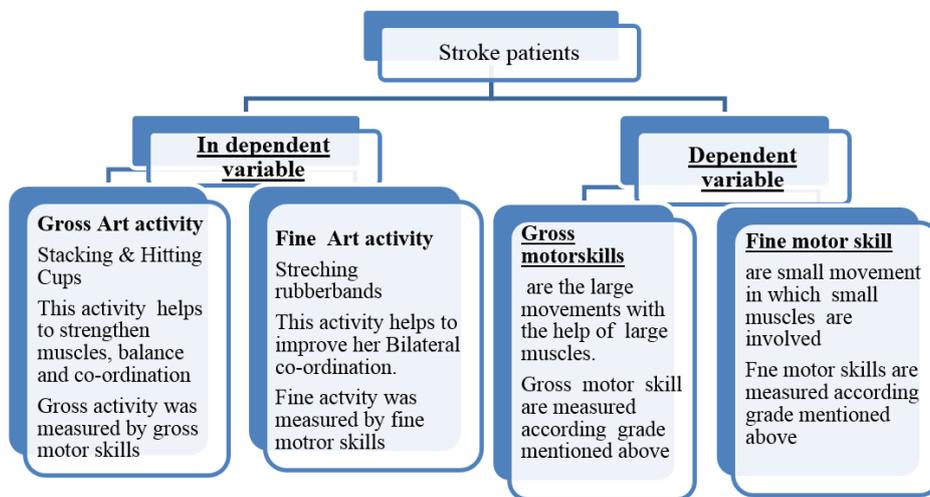
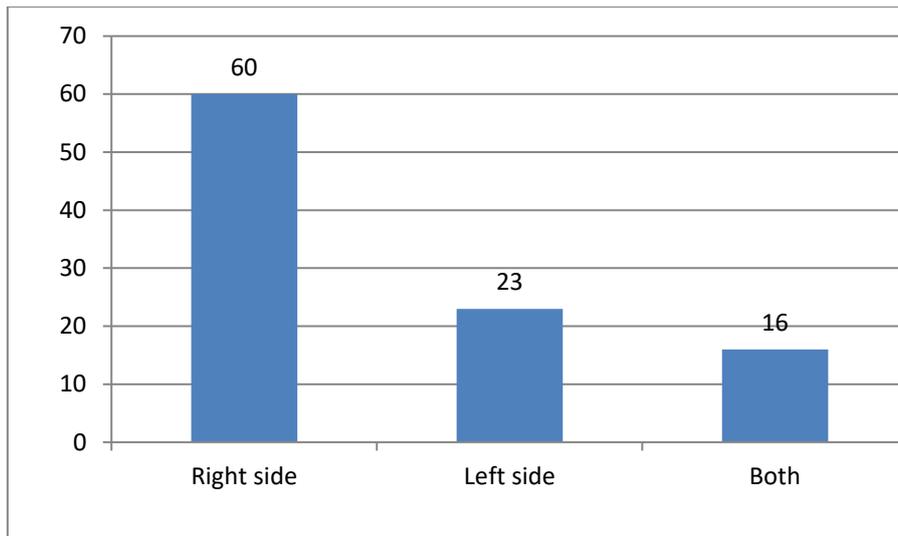


Figure 3.

After the collection of data, data was entered in SPSS (Statistical Package for Social Science) version 17.0. This SPSS (Statistical Package for Social Science) was also used for the statistical analysis of the data. So statistically descriptive statistics option was used to analyze the data. After the collection of data the percentage was calculated of female stroke patient grade level before and after intervention improvement of motor skills through art activities. The frequencies and the percentages were taken out descriptive analyze option of SPSS. Statistically Paired sample T-Test were find significant value of improvement fine motor development of stroke female patients before and after through art activities.

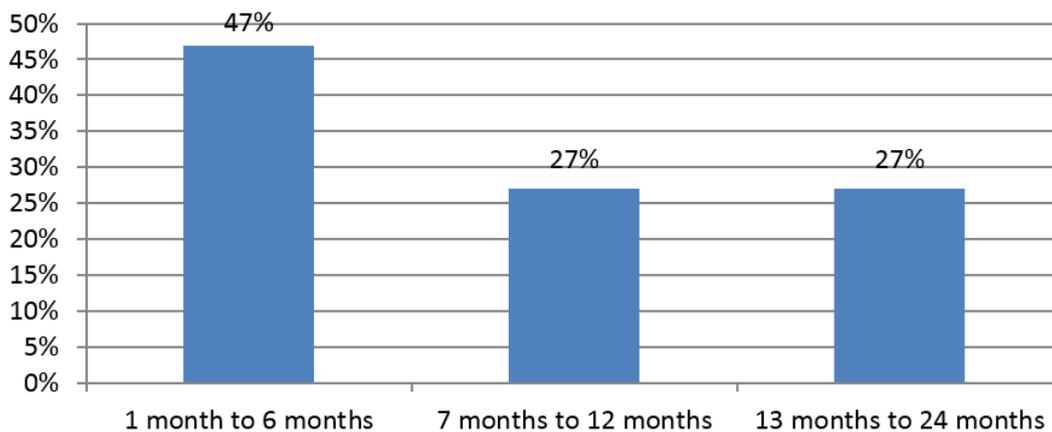
**3. RESULT**

The result of the study to assess effected by art activity in improving of motor skills of female stroke patients. Rehabilitation through Art has been explained as helping stroke survivors to improved motor function and joy in living. The analysis has been carried out at the following



**Figure 1.** Affected body side of female stroke patients Female.

Consequent investigation of affected body side of female stroke patients revealed that in mainstream of female patients the affected side was the right side of the body, while the left side was affected in minority of female stroke patients. Some female patients affected both side of the body.



**Figure 2.** Duration (in months) of disease for female stroke patients.

As indicated in [Figure 2](#), 20.0 % female patients had been suffering from the disease for 4 months, 13.3 % patients had been suffering for 6 months, 10.0 % patients for 8 and 10 months, 6.7 % for 5, 14 and 15 months each, while 3.3% patients had been suffering from the disease for 7, 18, 19 and 20 months respectively.

**Table 1.** Improvement in Gross Motor Development of Female Stroke patients Before and After Intervention through Art Activities (Balance and co-ordination).

Grade	Before n (%)	After n (%)
2	3(10.0)	2(6.7)
3	19(63.3)	16(53.3)
4	8(26.7)	6(20.0)
5	-	6(20.0)
Total	30(100.0)	30 (100.0)

As seen in Table 1 the total number of patients in grade 2,3and 4 decreased in relation to improvement in balance and coordination through art activity. There were no female stroke patient at grade 5 of balance and co ordination before introducing art activity; however, after the intervention through the staking and hitting cups activity as many as 06 patients achieved improvement in balance and co ordination up to level 5. This showed that these patients could maintain their maximum resistance against gravity.

**Table 2.** Result showing Balance and Co-ordination of Female Stroke Patients Before and After Intervention through Art Activity.

N=60		
	Before Treatment	After Treatment
Mean	2.1	2.5
St.d	.59	.90
Sig	P=0.000	

Analysis of the problem:

$H_0 : \mu_1 = \mu_2$  ( no significant differences)

$H_A : \mu \neq \mu_0$  ( significant differences)

$\alpha = 0.05$

CONCLUSION: In-depth analysis of this item shows that P-value is 0.000 which is less than 0.05; Hence,  $H_0$ , was rejected which indicates that a significant difference was shown in gross development through staking and hitting cups activity. Balance and co-ordination ability to perform complex task is affected as a result of stroke. However, simple exercises and activities can improve body co-ordination. This is established by the result of mean and std. deviation as well as significance 2 tails in the above table.

**Table 3.** Improvement in fine motor development of female stroke patients before and after intervention through art activities (Strengthening of Finger Muscles).

Grade	Before n (%)	After n (%)
2	3(10.0)	1(3.3)
3	19(63.3)	17(56.7)
4	8(26.7)	6(20.0)
5	-	6(20.0)
Total	30(100.0)	30 (100.0)

Table shows that Fingers are important for virtually every daily task. Pinch and grip weakness can develop with injury or disease. However doing a few simple, quick exercises with common items greatly help improve finger strength. Above table illustrates the improvement in improvement of fine motor skills in female patients before and after intervention through activity.As indicated in the table, majority of the grade 2 female stroke patients whose prolonged muscles contraction was negligible' improved to grade 3 after intervention through art activity. Stretching rubber band activity was used to target improvement of muscles finger gravity; the exercise showed an improvement through all grades. There were no patients at grade 5 in May, i.e. beginning of the research program. However, after introduction of the stretching rubber band activity, 06 female patients showed an improvement up to grade 5 by August, i.e. the end of the research period.

**Table 4.** Result showing strengthening of finger muscles of female stroke patients before and after intervention through art activity.

N=60		
	Before treatment	After treatment
mean	2.17	2.6
St.d	.59	.85
Sig	P=0.000	

Analysis of the problem:

$H_0 : \mu_1 = \mu_2$  ( no significant differences)

$H_A : \mu \neq \mu_0$  ( significant differences)

$\alpha = 0.05$

Conclusion: Paired T –Test was used to observe whether or not the art activities showed any significant differences in the rehabilitation of female stroke patient's fine motor skill

Development. Mean and Std. deviation as well as calculated p-value (0.000) of the subjects indicates that there was a strong significant interruption performance before and after the intervention through art activity; the activity used for strengthening of the fine Motor development was rubber band activity.

#### 4. DISCUSSION

Arts in medicine, also referred healthcare, is a diverse, multidisciplinary field dedicated to alter health and the healthcare experience through the arts. In the stroke physiotherapy treatment aims at optimizing motor function in order to improve performance of activities of daily living .According to Researcher (Wade, Langton-Hewer, Wood, Skilbeck, & Ismail, 1983) "Art therapy is one form of psychological therapy that can treat depression and anxiety in stroke patients". Art therapy in stroke rehabilitation can be alienated into diagnosis, training, and treatment. Stroke patients can express their internal conflicts, emotions, and psychological status through art works or processes; it is further possible to make diagnoses through this process (Gonen & Soroker, 2000). Medical art therapy may be regarded as a 'complex intervention' (Campbell et al., 2000; Redfern, McKeivitt, & Wolfe, 2006), as it comprises a multi-faceted array of therapeutic components. The objective of the study was found out the improvement of motor skills of female stroke patients before and after through art activities. The hypothesis was formulated to carry out the research that is there is significant difference interpretation in Gross motor development of female stroke patients before and after intervention through art activity (Staking and hitting cups) of Balance and coordination. 10.0% female patients were in grade 2. 63.3% were in grade 3. 26.7% were in grade4 before intervention through art activity of Gross motor development.6.7% female patients were in grade 2. 53.3% were in grade 3. 20.0% were in grade4. 20.0% were in grade 5 after intervention through art activity of Gross motor development value = 0.000 which is less than 0.05 there is a strong significant differences of art activity on Gross motor development of female patients.

"Art" and "Science" is a moderately current development and art from side to side medicine and health is a high level of intersection. Recently research shows that the art and science of medicine is complementary (Panda, 2006).Using creative arts activities are helping patients on the stroke to improve their muscles strength to perform daily activities. Therefore of this research help rehabilitation programs strive to facilitate patients become more independent in all aspects of daily living. This research gave following recommendations for the healthier treatment of patients i.e. for rehabilitation program. For the successful function of rehabilitation centre, interest of patients must be given first consideration.

Psychotherapy of patients and their families is also needed along with appropriate information regarding rehabilitation program.

Rehabilitation program initiate all hospital of Pakistan, to provide medically-based, multidisciplinary approach to the treatment.

The rehabilitation centre needs positive attitude and devotion of the NGO's to run rehabilitation centre and its programs.

Clinical psychologists and psychiatrists should be available to assess individual patients to see their interest and to improve their psychological conditions.

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#### CONFLICT OF INTEREST

The authors declare that they have no competing interests.

#### ARTICLE HISTORY

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