SELF-PERCEIVED BARRIERS TO EXERCISE AMONG FEMALES AFTER STROKE

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ABSTRACT

Pakistan is one of among those countries where a lot of females become the victim of stroke every year. This serious problem may be overcome by females' more and more involvement in physical activities and exercise. Objective of study was to assess the self-perceived barriers related to physical activity and exercise in females after stroke. A study of cross-sectional nature was performed on a sample of post stoke females, which were selected from Aziz Bhatti Shaheed Teaching Hospital, Gujrat and THQ, Wazirabad . Informed consent was obtained from the female participants before collecting the data and measurement. A self-efficacy scale (SES) questionnaire consisting of 9 items was used with each item had values ranging from 0 to 10. This questionnaire was circulated for obtaining information related self-perceived barriers to exercise among female patients after stroke. The values of self-efficacy scale from 0 to 5 were indicators of no confidence and the values of self-efficacy scale from 6 to 10 were demonstrators of confidence. Chi-square test was also used as an inferential statistics to find the statistical significance difference. All results were calculated at 95% confidence interval and p-value≤0.05 was considered as significant value. Data were analyzed of 282 post stroke females. Out of total (n=282), average age and body mass index of participants were observed 37.75±6.68 years and 22.00±2.81 Kg/m². Out of all susceptible barriers among stroke females , weather condition, bore from activity, felling pain, doing exercise alone, busy schedule, felling stress and felling depressed during exercise were diagnosed potential barriers

Keywords: **Barriers, Stroke, Self-efficacy, Body Mass Index (BMI)**

INTRODUCTION

The prevalence of stroke has increased rapidly and has become as one of the common reasons of deaths in the world. Along with this, it also becomes the main cause of permanent disability. Besides this, stroke is also thought a threat for different problems like physical activity.[1]

Thousands of people become the victim of stroke with every passing year round the world. After first stroke, physical inactivity or low-degree of physical of physical activity are usually faced by different victims of stroke. Repetition of stroke and several other vascular problems take place due to reduction in physical activity from biological perspective. Researchers claim that the threat of recurrent stroke may be controlled around 20 % by taking exercise on regular basis. A complete or partial recovery from stroke demands a long span of time. Patients of stroke always strive for having a full recovery from this disease which is not an easy task. So, survivors of stroke must be supported for coming over the problems associated with this disease during or after survival.[2]

Stroke has got the capacity of leaving particular emotional, social and economic problems for the sufferers. Long-term recovery from stoke should be patients' priority so that they may participate in invigorative activities for resisting against the barriers of stroke. Avoidance from exercises and staying away from physical activities functions as barriers from long-term recovery of stroke. Researches strongly affirm the benefits of exercise for defeating the barriers of recovery process. Physical activities of exercise during the process of rehabilitation bring various functional and psychological benefits of recovery and healing up to higher level. The deadly barriers to exercise may be countered by a comprehensive set of exercises and physical activities.[3]

Numbers of victims of stroke around the earth have increased manifold according to researches. From 2013 to 2016, the victims' percentage was around 2.5 % which indicated that every one person out of forty persons was falling a prey to deadly stroke.[4] Reliable sources claim that nine billion pounds are spent annually on issues directly or indirectly connected to stroke.[5]

Patients' degree of participation in physical activities remarkably decreases after being attacked by stroke. Issues like mitigation in physical movements and sensual abilities, a reduction in cognitive capacities and rise of verbal problems are regularly observed after being

hit by stroke. Hall's study claims that only 15 % of patients meet the destination of hundred percent recovery from the deadliest effects of stroke.[6]

The process of rehabilitation is especially valued in developed countries.[7] Patients spend enough quantity of time in the institutes of rehabilitation and centers of healthcare. This duration of rehabilitation may be between one to three months.[8] The duration allocated for the process of therapy in the institutes of developed countries does not last more than thirty seven minutes per day.[9] An insight of barriers and facilitators is thought to be very significant for helping stroke survivors to regain physical strength.[2]

Relative difference exists in considering certain factors either as facilitators or barriers. The effects of stroke are thought to be long-term which may include defects connected to residual neurological issues, tiredness, fatigues, hindrances of cognitive type and barriers of social nature.[10,11] A few choices exist for physical activity and exercises due to different personal (motivation and selfefficacy), environmental or any other nature.[1]

The recent study may highlight various self-realized barriers for exercising among female patients of stroke. Apart from this, the research may recommend particular solutions for females for tiding over these hindering factors which decisively produce such self-perceived barriers in women and hinder them from participating physical activities. The outcomes of this study may be a productive tool for making policies for maximizing awareness and propensity for exercise in female patients which will eventually ameliorate repercussion associated with health.

METHODS

Study design, study population, setting and duration of study

A study of cross-sectional nature was performed on a sample of post stoke females, which were selected from Aziz Bhatti Shaheed Teaching Hospital, Gujrat and THQ, Wazirabad between May to August 2022.

Sampling and sample size calculation

Non-probability convenient sampling technique was used to select the 282 post stroke females. Sample size calculation was done using WHO recommended software for the sample size calculation [12] and below mentioned formula[13] was used.

$$n = (Z_{1-\alpha/2})^2(p)(1-p)/(d)^2$$

Calculated sample size n=282 was estimated using $Z_{1-\alpha/2}$ = 1.96 at 95% confidence interval and d = precision or effect size was used 0.05.

Ethical approval and consent

Ethical approval was taken from Institutional Review Board (IRB) of University of Lahore, Punjab, Pakistan. Informed consent was obtained from the female participants before collecting the data and measurement.

Participants, data collection tool and outcome measures

Post stroke female patients with sub-acute stage were selected for the current study. Those patients were not made the part of the study who was Female patients with acute stroke, suffering from trauma, degenerative disease fractures and deformities were excluded from the study. A self-efficacy scale (SES) questionnaire consisting of 9 items was used with each item had values ranging from 0 to 10. This questionnaire was circulated for obtaining information related self-perceived barriers to exercise among female patients after stroke. The values of self-efficacy scale from 0 to 5 were indicators of no confidence and the values of self-efficacy scale from 6 to 10 were demonstrators of confidence. Total scored was 90, if ≤45 score indicate no confidence whereas >45 score were demonstrators of confidence.

Statistical Analysis

Responses were entered and analyzed in Statistical Package for Social Sciences (SPSS) version 24. For the descriptive analysis, percentages and frequencies were calculated for categorical data while mean and standard deviation were calculated for quantitative data. Chi-square test was also used as an inferential statistics to find the statistical significance difference. All results were calculated at 95% confidence interval and p-value≤0.05 was considered as significant value.

RESULTS

Data were analyzed of 282 post stroke females. Out of total (n=282), average age and body mass index of participants were observed 37.75±6.68 years and 22.00±2.81 Kg/m^2 that was shown in table 1. Mostly 211(74.80%) participants were found in between 30 to 40 years of age whereas overweight and Obese were 29(10.30%) and 3(1.10%) respectively that were observed statistical significant difference with P-value ≤0.05 that was presented in table 2. Out of all susceptible barriers, weather condition, bore from activity, felling pain, doing exercise alone,

busy schedule, felling stress and felling depressed during exercise were diagnosed potential barriers that were found statistically significant with p-value ≤0.05 that was shown in table 3.

Table 1. Descriptive analysis for demographic variables and barriers score

Variables	Mean±S.D
Age of participants (Years)	37.75±6.68
Body Mass Index (Kg/m*2) Score	22.00±2.81
Self-Efficacy Scale (SES)	
The weather was bothering you?	5.21±2.94
You were bored by the programme or activity	5.49±3.95
You felt pain while doing exercise?	4.70±3.63
You had to exercise alone?	5.09±2.88
You did not enjoy it?	6.35±2.82
You were too busy with other activities?	4.42±2.72
You felt tired?	5.46±2.65
You felt stressed?	4.87±2.80
You felt depressed?	4.77±3.50
SES	**46.37±14.04**

Table 2. Demographic variables with categories

Variables	categories	n	%	Chi square	P-value
Age Group of participants (Years)	30-40	211	74.8	224.96	<0.001*
	41-50	53	18.8		
	51-60	18	6.4		
Body Mass Index (Kg/m*2) for Health Status	16-18 (underweight)	10	3.5	548.5	<0.001*
	18-24 (normal)	240	85.1		
	25-29 (over weight)	29	10.3		
	30-34 (Obese)	3	1.1		

Table 3. Inferential statistics for barriers

Variables	Categories	n	%	Chi square	P-value
The weather was bothering you?	0-5(Not Confident)	166	58.9	8.87	0.03*
	6-10(Very Confident)	116	41.1		
You were bored by the programme or activity	0-5(Not confident)	174	61.7	15.45	<0.001*
	6-10(Very confident)	108	38.3		
You felt pain while doing exercise?	0-5(Not confident)	215	76.2	77.68	<0.001*
	6-10(Very confident)	67	23.8		
You had to exercise alone?	0-5(Not confident)	167	59.2	9.59	0.002*
	6-10(Very confident)	115	40.8		
You did not enjoy it?	0-5(Not confident)	122	43.3	5.13	0.24
	6-10(Very confident)	160	56.7		
You were too busy with other activities?	0-5(Not confident)	196	69.5	42.91	<0.001*
	6-10(Very confident)	86	30.5		
You felt tired?	0-5(Not confident)	157	55.7	3.64	0.57
	6-10(Very Confident)	125	44.3		
You felt stressed?	0-5(Not confident)	191	67.7	35.57	<0.001*
	6-10(Very confident)	91	32.3		
You felt depressed?	0-5(Not confident)	217	77.0	81.93	<0.001*
	6-10(Very confident)	65	23.0		
Total		**282**	**100.0**		

DISCUSSIONS

Various researches have been carried from different angles by scholars connected to barriers of exercise in different regions of the planet. Current study may be compared and contrasted with those studies which are present in this part of thesis.

The current study deals with barriers to exercise among the female patients of stroke. These barriers have also been studied by Rimmer, Wang and Smith. but, Rimmer et al. have studied barriers for exercise and community access of individuals with stroke by administering a survey co economic price of program (61 %), lack of awareness with the center of fitness in the area (57 %), less availability of transport for reaching fitness center (57 %), no knowledge of doing exercise were noted as the most-frequently reported barriers from doing exercise. On the other side, no availability of time (11 %), lack of interest in exercise, negative view about exercise (1 %) were those barriers which were reported by a small proportion of patients.[1]

Nicholson et al has also studied the perceived barriers for performing physical activity like this current investigation. But, this study has studied the self-perceived barriers to exercise among female patients after stroke. On the other side, Nicholson et al. has done qualitative theory guided analysis of stroke survivors' perceived barriers and facilitators to physical activity which makes the study of Nicholson et al diverse from the recent study.[2]

Debora Pacheo et al. has also conducted a study on perceived barriers reported by individuals suffered by stroke like this study but those individuals were consisting of those males and females who were able to walk in community. On the other hand, this study deals with selfperceived barriers to exercise among female patient after stroke which has not been probed by the study carried out by Debora et al.[10]

In 2007, Damush executed a research for finding out the barriers for exercise faced by stroke survivors just like this current study but this focused on sefl-perceived barrier for exercise faced by females after stroke. Oppositely, Damush also studied perceived facilitators along with the barriers for exercise faced by stroke patients which has not been addressed in this research.[14]

Idowu et al. studied perceived barriers to physical activity and exercise in 2015 just like this study which has investigated self-perceived barriers to exercise. But the populations of Idowu's and present studies are entirely different as the former has studied the stroke survivors of Nigeria including men and women and later ascertained the Pakistani female patients suffered by stroke.[15]

Geelen et al. has done a study in 2021 for tracing the barriers to physical activity faced by stroke patients just like this study which is studying self-perceived barrier to exercise but the major difference of both studies is this that Geelen has also studied enablers along with barriers using a different method of scoping review in patients which were admitted in hospital. On the opposite side, female patients after stroke observed were not admitted in hospital. Moreover, this very study has not taken a scoping review which Geelen has done.[16] In this study, study population was selected using probability sampling

CONCLUSION

Out of all susceptible barriers among stroke females , weather condition, bore from activity, felling pain, doing exercise alone, busy schedule, felling stress and felling depressed during exercise were diagnosed potential barriers

Statement of Conflict: No conflict

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