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Research Article

**ANALYSIS OF CLINICAL PARAMETERS TO EVALUATE THE
IMPACT OF EXERCISE ON DEPRESSION AND STRESS IN
PREGNANT WOMEN****Dr. Mujahid Iqbal¹, Dr. Ayesha Riaz², Hafiz Mohsin Munawar Gill³**¹Mayo Hospital Lahore, ²DHQ hospital Faisalabad, ³Allied Hospital Faisalabad**Abstract:**

Introduction: Women in their reproductive age are at high risk for depression. This disorder occurs more often during postpartum period than any other time. Postpartum depression is a disorder characterized by symptoms such as severe loneliness, irritability, fear, lack of confidence, changes in feelings, guilty feelings, decreased concentration, and in severe cases is accompanied with suicidal thoughts.

Objectives of the study: The current study aims to investigate the effects of exercise training on postpartum anxiety and depression in pregnant women.

Material and method: This study was conducted in Mayo hospital Lahore during 2018 with the permission of ethical committee of hospital. This study was conducted on 100 women who had childbirth and who were referred to gynaecological clinic for postpartum care. The members of the study group entered the training stages, but the control group had been evaluated only in the final stage of the study along with the case group. All mothers in the case group received training at the first session, so that they could practice the exercises correctly and completely.

Results: The demographic findings in the present study show that there is no significant difference in characteristics of the units studied between the study and control groups. The results of the tests for comparing the effects of training on postpartum depression showed that there was a significant reduction in the studied group and the depression score decreased from 17.69 ± 3.78 to 16.09 ± 3.05 ($p = 0.02$).

Conclusion: It is concluded that 8-week aerobic exercise show an effective and reducing impact of exercise on the levels of depression and anxiety and stress in postpartum women; so that depression improved for a number of women in the study group.

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INTRODUCTION:

Women in their reproductive age are at high risk for depression. This disorder occurs more often during postpartum period than any other time. Postpartum depression is a disorder characterized by symptoms such as severe loneliness, irritability, fear, lack of confidence, changes in feelings, guilty feelings, decreased concentration, and in severe cases is accompanied with suicidal thoughts. Approximately 13% of women experience postpartum depression (1). Some studies have highlighted the prevalence of this disorder in the world as high as 33%. According to studies conducted in our country, the frequency of postpartum depression has been reported to be 42.13%. In postpartum depression, there is a risk of injury to the mother and the baby (2).

In developing countries, pregnancy and childbirth are among the main causes of death, illness and disability in women of reproductive age (3). This period is associated with changes in psychological needs such as increased anxiety and depression and physical changes such as weight gain and outflow of the heart. Lack of knowledge and fear causes pregnant mothers to become anxious and this anxiety and fear are transmitted to the brain and causes an increase in stress hormones secretion in the mother. Stressing events significantly increases the prevalence of postpartum depression (4). Today, exercise and physical activity are considered not only as leisure time, but also as an indispensable necessity for health and well-being. Considering women's sports and exercise as a major part of society are essential along with their conditions and physiological needs. Research on the physiological response of the body to exercise trainings suggests that healthy pregnant mothers can cause adaptation between sport activities with their physiological and foetal needs (5). Also, exercise is one of the ways to reduce the adverse effects of pregnancy such as insomnia, fatigue, excessive weight gain, back and lower back pain, pelvic pain, constipation, inability to control urine, increased blood pressure, gestational diabetes, depression and anxiety (6). Several studies inside the country and abroad have shown that exercise can reduce the intensity of anxiety and, after stopping exercise, anxiety reappears.

According to the results by Isard, regular exercise reduces anxiety and, once the exercise is stopped, symptoms of anxiety reappear (7).

Objectives of the study

The current study aims to investigate the effects of exercise training on postpartum anxiety and depression in pregnant women.

MATERIAL AND METHOD:

This study was conducted in Mayo hospital Lahore during 2018 with the permission of ethical committee of hospital. This study was conducted on 100 women who had childbirth and who were referred to gynaecological clinic for postpartum care. The members of the study group entered the training stages, but the control group had been evaluated only in the final stage of the study along with the case group. All mothers in the case group received training at the first session, so that they could practice the exercises correctly and completely. Classes lasted for 8 weeks with 2 sessions per week and each session was 30 minutes. To measure anxiety, Spielberger questionnaire was used. Hidden and obvious anxiety questionnaire, which has been standardized and used on general population many times, has an acceptable validity; it's evaluated based on 4-point Likert scale from a general score of 20 to 80.

Statistical analysis

The findings were analysed by statistical software. Descriptive statistics was used to show the absolute and relative frequencies and performance and demographic characteristics of the samples; inferential statistics such as Chi square test and paired t-test used.

RESULTS:

The demographic findings in the present study show that there is no significant difference in characteristics of the units studied between the study and control groups. The results of the tests for comparing the effects of training on postpartum depression showed that there was a significant reduction in the studied group and the depression score decreased from 17.69 ± 3.78 to 16.09 ± 3.05 ($p = 0.02$).

Table 1: The demographics of the infertile women in the control and experimental groups.

Group	Case group n=37	Control Group n=37	P value
Characteristics	Mean ± SD or n (%)		
Woman's age	27.94±5.28	27.68±3.53	0.7
Husband's age	32.54±5.62	32.78±5.64	0.8
Educational level			
Primary school	14(27.5)	9(17.7)	0.27
Secondary school	19(37.3)	26(51)	
Academic	18(35.3)	16(31.4)	
Employment status			
Housewife	42(82.4)	46(90.2)	0.19
Employed	9(17.6)	5(9.8)	
Husband's Education			
Primary school	19(38)	18(35.3)	0.36
Secondary school	19(38)	25(49)	
Academic	21(24)	8(15.7)	
Husband's Occupation			
Employed	40(78.4)	45(88.2)	0.14
Unemployed	11(21.6)	6(11.8)	

P* value: chi-square test

Table 2. Comparison of the mean differences Anxiety and depression between two groups.

Variable	Group	Pre-test Mean ± SD	Post-test Mean ± SD	*p-value
State Anxiety	Control	49.17±4.50	49.90±4.43	P=0.3
	Case	49.55±4.28	47.46±3.57	P=0.0001
Trait Anxiety	Control	48.67±5.00	48.03±5.31	P=0.08
	Case	50.21±4.34	47.46±3.57	P=0.001
Post partumdepression	Case	17.69±3.78	16.09±3.05	P=0.02
	Control	17.63±3.28	17.73±3.79	P=0.8
Total Anxiety	Case	99.76±5.94	95.32±5.54	P<0.0001
	Control	97.84±6.53	97.94±8.58	0.9

p- value: paired t-test between the two groups

DISCUSSION:

The results of this study showed that the mean of hidden and obvious anxiety scores had significantly decrease after aerobic training in the case group, that is, exercise training reduced anxiety in the case group. Based on the results of Isard, regular exercise

reduces anxiety and, with the stop of such exercises, symptoms of anxiety reappeared again (8). In another study, Berger and Owen showed that physical exercise has a significant effect on the reduction of anxiety (9). DeLorenz et al. in a study examined the long-term effects of aerobic exercises on anxiety, depression

and emotional states. Their study showed that there is a correlation between improvement of Physical fitness of participants in aerobic exercises and their levels of anxiety (10).

The results of our study showed that aerobic exercise has a significant effect on postpartum depression. Some studies have suggested positive effects of exercise on general maternal health and in dealing with postpartum depression. In this regard, in the study of Armstrong et al. (2003), a 12 week exercise program during postpartum period had a significant effect on depression on 20 depressed women (11).

CONCLUSION:

It is concluded that 8-week aerobic exercise show an effective and reducing impact of exercise on the levels of depression and anxiety and stress in postpartum women; so that depression improved for a number of women in the study group. Postpartum sport activities and exercises have many psychological benefits in addition to many physical benefits for women, so most psychologists consider exercise as a way to deplete physical energies along with the vitality and cheerfulness of mind.

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