OPEN ACCESS

ORIGINAL ARTICLE

Outcome of Physical Activity on Depression and Anxiety Disorder Among Adults

Zohra Zafar[1], Hafiz Muhammad Asim[2], Ali Shehzad[3]

[1]Student, University of Health Sciences, Lahore
[2]HOD Physiotherapy, Lahore Medical & College
[3]Lecturer, University of Health Sciences, Lahore

Keywords

Anxiety, Depression, Physical Activity.

Author's Contribution

[1]Conception and design, Final approval and guarantor of the article
[2]Collection and assembly of data
[3]Analysis and interpretation of the data
[1,2] Statistical expertise, Critical revision of the article for important intellectual content

Article Info.

Received: 19th July, 2018
Accepted: 29th November, 2018

Conflict of Interest: Nil
Funding Sources: Nil

Address of Correspondence

Zohra Zafar
zohrarehan11@gmail.com

Cite This article as: Zafar Z, Asim HM, Shehzad A. Outcome of Physical Activity on Depression and Anxiety Disorder Among Adults. JRCRS. 2018; 6(2):67-70.
DOI: 10.5455/JRCRS.2018060203

A B S T R A C T

Background: Two of the most concerned mental health problems in our society are depression and anxiety. Anxiety and depression can often occur together, it is therefore important to know the signs and symptoms associated with them.

Objective: To determine the role of physical activity and exercise in depression and anxiety disorders.

Methodology: It was a study in which data was collected from Psychiatry Department of Jinnah Hospital. Research data was recorded by using prescribed validated questionnaire, psychological measurement tool Beck Depression Inventory-II. Patients were divided in two groups. First group took medication only and the other was provided with medication and physical activity plan. A baseline measurement was taken and then a follow up after 4 weeks was done and the difference in the scores was noted down in both groups.

Results: The decrease in the scores of BDI-II was significantly higher in group who took medication with exercises as compared to group who were treated with medication only. The decrease of depression in group treated with medication and exercises significant at P=0.019 levels showing that exercises with medication is more effective than only medication. The percentage of patients with mild depression post treatment was 40% in physical activity group as compared to 52% in medication group while percentage of patients with no depression in physical activity group was 48% as compared to 18% in medication group which is significantly higher.

Conclusions: After the follow up of four weeks it was noted that the second group in which patients were treated with medication and physical activity was better relieved from depression signs and symptoms than the patients who were treated with medication only. So, physical activity that is organized and structured can be incorporated as an effective strategy for the treatment of depression.

Introduction

Anxiety and depression are the commonly seen problems of the youth. Majority of the researches are conducting now days on youth and depression and causes of depression in youngsters.[1] Anxiety and depression when combines together, globally their ranking is first, among the non-fatal diseases. Among the fatal diseases it ranked second and the first is coronary heart problems. While gathering evidences that if physical activity have positive effects on patients mental health and other systematic disease like heart diseases, it was noticed that majority of the Asians are not active at all.[2] When it comes to physical activity, it is observed that minimum thirty mins walk or activity is necessary for the change of mental and physical health. It was also stated that this thirty minutes physical activity should be of moderate capacity. If it's not possible to work out on daily basis, most of days should be recommended. Physical activity in any way is appreciated.[3]

It was commonly seen that females are more prone to the depression and anxiety than males but it was seen that not only girls are victims of depression and anxiety but also the boys in the equal state.[4] But when the

girls reach at the age of puberty, their depressive moods increase up to the two ratio one when it comes in comparison to the boys. It does not matter what age the person is, depression and anxiety can grab to anybody in any situation[5] physical activity is an effective, low-cost and generally safe component of depression management. Health experts advise people with depression to try to increase physical activity for its physical and psychosocial benefits. Consider cardiovascular risk assessment in people with depression, given the evidence that depression, social isolation and a lack of quality social support are independent risk factors for heart disease.[6]

Many researchers showed that people that experience exercise daily depressed lesser than the people those don't take part in any sort of physical activity and exercise.[7] Many randomized clinical trial showed that people should do at least moderate intensity exercise in order to get better prominent improvement. Researcher also mentioned that physical activity only and exercise both are different things and for combating with the anxiety or depression patient should experience exercise.[8] They mentioned that sixteen weeks regular exercise is as effective as any anti-depressant drug. Trial showed that regular exercise for three weeks concluded to twenty percent decreased in risk of anxiety symptoms for 5 years. [9]

Methodology

Study design was Quasi Experimental study. Data was collected from outpatients department of Psychiatry ward at Jinnah Hospital Lahore. The study was completed in duration of 3 months between October 2015 and December 2015.Non probability convenient sampling was used. Using a 15% prevalence of depression in adult population with 95% confidence level and 7% margin of error.

Studies were calculated for estimating the infinite population proportion. Inclusion Criteria was age group between 20-50 years preferably, both genders and Patients with mild to moderate and severe depression and anxiety disorders. Exclusion Criteria was Epileptic patients and Patients with cardiovascular disease. Data was collected with the help of psychological measurement tool Beck Depression Inventory-II. It was a self-report instrument for measuring the severity of depression in adults and adolescents aged 13 years and older. The BDI-II is scored by summing the ratings for 21 items. Each item is rated on a 4-point scale ranging from 0-3. The maximum total score is 63.

Patients were divided in two groups. First group took medication only and the second group was provided with the medication and physical activity. Patients were assessed initially and scores were noted. The patients in second group were given an exercise plan of 30-40 minutes preferably aerobics in the form of running or brisk walk six days a week in addition to medicines. A follow up assessment was made at 4 weeks interval and changes in scoring were noted down for both the groups. The data was analyzed by using the SPSS 20.0 statistical software. The chi square test was used for comparing the two groups. The statistical significance was set at 5% level. Results were recorded at last day of the last week.

Results

As table shows that there were 35 males in medication group and 15 females in the medication group. There were 9 males in the exercise medication group and 41 females in exercise medication group. There were 12 patients of moderate depression in the medication group and 38 patients of severe depression in the medication group before treatment. There were 27 patients of moderate depression in the exercise medication group and 23 patients of severe depression in the exercise medication group before treatment.

The number of patients of No depression is 9 in the medication group after treatment, 26 patients of mild depression and 15 patients of moderate depression in the medication group after treatment.

Table I: Frequency/Percentage of ales and emales in group I and II

Study group	Gender	Frequency	Percentage
Medication only	Male	35	70%
	Female	15	30%
Exercise and medication	Male	9	18%
	Female	41	82%

e-ISSN: 2410-888X p-ISSN: 2226-9215

Table II: Beck Depression Inventory-II before Exercises			
Study group	Variables	Frequency	Percentage
Medication Only Pre Treatment	No depression	00	00%
	Moderate depression	12	24%
	Severe depression	38	76%
Exercise and Medication Pre Treatment	No depression	00	00%
	Moderate depression	27	54%
	Severe depression	23	46%

Table III: Beck Depression Inventory-II after Exercises			
Study Group	Variables	Frequency	Percentage
Medication Only	No depression	9	18%
	Mild depression	26	52%
	Moderate depression	15	30%
Exercise and Medication	No depression	24	48%
	Mild depression	20	40%
	Moderate depression	06	12%

The number of males affected by severe depression before treatment was 32 and female patients were 29 before any treatment. Number of male patients with moderate depression is 12 and females are 27 before any treatment. So according to this data the male patients were more prone to severe depression than females.

Table IV: Gender both groups combined: beck depression inventory-II before exercises				
Count		Beck Depression Inventory-II Before Exercises		Total
		Moderate Depression	Severe Depression	
Gender	Male	12	32	44
	Female	27	29	56
Total		39	61	100

Chi-Square Tests

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 17.16.

b. Computed only for a 2x2 table

Table V: Gender Both Groups Combined: Beck Depression Inventory-II after Exercises					
Count		Beck Depression Inventory-II after exercises			Total
		No Depression	Mild Depression	Moderate Depression	
Gender	Male	9	23	12	44
	Female	24	23	9	56
Total		33	46	21	100

Gender Both Groups Combined: Beck Depression Inventory-II before and after Exercises.

It can be seen very easily that after the treatment session number of male patients with no depression is 9 and females is 24 which means male patients responded less to the treatment given as compared to the female patients.

Discussion

The effectiveness of physical activity as compared to medications only in the patients of depression and anxiety was assessed. Effectiveness was checked by difference in scores of a standard scale, Beck Depression Inventory-II before and after treatment. Patients were divided into two groups one with medication only and the second was given an exercise plan with medication. It was seen that the patients treated with exercises and medication responded better as their scores for depression decreased much more than the patients treated with medication only.

The percentage of patients with mild depression post treatment was 40% in physical activity group as compared to 52% in medication group while percentage of patients with no depression in physical activity group was 48% as compared to 18% in medication group which is significantly higher. Among patients in medication and exercises group, the number of male patients with no depression was 9 and females was 24 which means female patients responded better to the exercise as compared to males. And further the males were found to be more affected by severe depression

According to Cai S et al., 2000 decrease in the scores of BDI-II was significantly higher in group who took medication with exercises as compared to group who were treated with medication only. The decrease of depression in group treated with medication and exercises significant at P=0.019 level showing that exercises with medication is more effective than only medication. It was also noted in our study.[1]

According to (Brown CS et al., 2001), depression and anxiety is very much common in the married individuals than unmarried individuals. Exercise also has beneficial effects on panic disorders related to anxiety, and these effects are comparable to medication and relaxation procedures. Regular exercise within a certain limit appears to benefit in the married people. In our study it was noted that number of married patients with severe depression was 32 and unmarried were 29. Unmarried patients with moderate depression were 15 and married were 32 before any treatment. It means married patients are more prone to the severe depression.[2]

According to Carek PJ 2011 , a research studied the effect of exercise on 32 women with depressive symptoms (physician diagnosed and confirmed with the Beck Depression Inventory) residing in the greater Boston area in a month intervention study.[3] Women were randomly assigned to either a clinic-based or home-based exercise intervention, with assessments at baseline and 3-months. At the end of treatment, of the total sample, 46.9% of participants experienced a 50% reduction in depressive symptoms. It was noted in our study that females got more benefits from exercises by showing a more reduction in scores. [9]

Conclusion

After the follow up of four weeks it was noted that the second group in which patients were treated with medication and physical activity was better relieved from depression signs and symptoms than the patients who were treated with medication only. So physical activity that is organized and structured can be incorporated as an effective strategy for the treatment of depression

Recommendations

The current study was conducted in a limited place using non probability convenience sampling. But it may be more representative, if done on a large scale and along with questionnaire a qualitative interview of the respondents

References

1. Cai S. Physical exercise and mental health: A content integrated approach in coping with college sudents' anxiety and depression. Physical Educator. 2000;57(2):69.
2. Brown CS. Depression and anxiety disorders. Obstetrics and gynecology clinics of North America. 2001;28(2):241-68.
3. Kantrowitz B, Wingert P. How well do you know your kid? Newsweek. 1999;133(19):36-40.
4. Lauber C, Falcato L, Nordt C, Rössler W. Lay beliefs about causes of depression. Acta Psychiatrica Scandinavica. 2003;108:96-9.
5. Pinette G. The goods on herbal depression treatment. Windspeaker; 2003.
6. Paluska SA, Schwenk TL. Physical activity and mental health. Sports medicine. 2000;29(3):167-80.
7. Tkachuk GA, Martin GL. Exercise therapy for patients with psychiatric disorders: Research and clinical implications. Professional psychology: Research and practice. 1999;30(3):275.
8. Wang PS, Berglund P, Kessler RC. Recent care of common mental disorders in the United States: Prevalence and conformance with evidence-based recommendations. Journal of general internal medicine. 2000;15(5):284-92.
9. Carek PJ, Laibstain SE, Carek SM. Exercise for the treatment of depression and anxiety. The International Journal of Psychiatry in Medicine. 2011;41(1):15-28.

e-ISSN: 2410-888X p-ISSN: 2226-9215