

## Impact of Regular Exercise Program for Depression in Adults

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**Abstract :** Depression is a major problem which distresses the mood of a person. When a person is affected with depression it disturbs the whole life of that person as well as the people who care about that person. Depression can be the result of genetic, physiological, psychological and environmental factors. There are various treatment modalities like antidepressants, psychotherapy, electro convulsive therapy and behavior therapy are available to treat and prevent the depression. A literature search was conducted to understand the depressed adult's participation in regular exercise program compared to no exercise program lead to less depressive symptoms.

**Methodology:** A literature review of abstracts and articles discussing the study aim on effect of exercise programme on depression, written in English, and published between 2003 and 2014 were searched. Articles were identified from four data bases using CINAHL, Pub Med, Med space, and Medline with Full Text.

**Findings:** The results of the review clearly indicating that the physical exercise can be effective in treatment of depression. Use of aerobic exercise which has a great impact on the treatment of depression.

**Conclusion:** inclusion of regular exercise programme for the depressed patients along with medication can have a great impact for the improvement of the patient condition. Furthermore each hospital can have a regularized exercise programme for depressed patient and also to have more researches related that.

**Key Words:** Depression, Exercise, Treatment, adult depressive patients, effect of exercise and mood symptoms.

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### I. Introduction

According to world health organization depression is defined as "Depression is a common mental disorder, characterized by sadness, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, feelings of tiredness, and poor concentration" [Health topic depression, 2014]. There are various treatment modalities available for patients with depression. Because of the nature of the disease, patients need to continue the treatment for a long period of time. This can be challenging to the patient as well as to the family members. Time period for the treatment and the side effects of the treatment can result in non-compliance of the treatment and thus it can result in frequent relapse of the disease condition. According to world health organization [WHO], globally more than 350 million people of different age group are depressed. It is a leading cause for the disability, women are affected more than men and at its worst stage it can lead the person to commit suicide. [Key facts, 2012]. Due to social stigma and fear of taking medication, many patients tend to hide the disease and do not take any treatment. Since depression affects the mood of the patient, exercise can be beneficial because exercise is known to relieve stress and anxiety.

A study reports that 10 weeks exercise program resulted in reduction in the depressive symptoms in older adult [Rodriguez 2002]. In another meta-analysis study reports that exercise is an effective therapy for mild to moderate depression and can be used for severe depression along with other traditional treatment options [Knapen & Vancampfort, 2013]. So there are positive evidences to show that exercise can be used to improve the mood and can be used to treat the depression, either alone or combined with other treatment modalities. Developing a therapeutic exercise program can be beneficial for the depressive patients to gain control over their mood without much use of antidepressant medication. Exercise also helps the patients to keep the fit body and thus prevent other complications related to the overweight.

### Back ground of the Study

A person with depression lacks interest in doing any activity has poor appetite and depressed mood cite. This can affect the overall performance of the affected patients. They withdraw from the society, will have negative attitude to the life situations and eventually they may decide to end their lives due to the increased negativity in the attitude. According to national institute of health [NIH], each year 6.7% of adults in America is affected with major depression.

Low self-esteem is a major risk factor in developing depressed mood and in the progression of the disease. Authors of Many publications have discussed the importance of the physical activity in the improvement of the depressive symptoms. Exercise helps to increase the endorphins in our body which is known to improve the mood and reduce the pain. Exercise is well known to reduce the anxiety and stress. One

of the key points in exercising is that it improves the self-esteem of the person and thus improves the symptoms of depression. All studies show there is a short term improvement in the mood and reduction in the symptoms of depression with exercise.

**Purpose :** The purpose of this evidence based practice project (EBP) is to investigate whether a regular exercise program is effective in improving the depressive symptoms in adult depressive patients.

**Objective:** To assess the effectiveness of regular exercise programme for less depressive symptoms for depressed patients over six month's period.

## **II. Methodology**

A total of 67 articles were found after searching the following electronic data bases: Cochrane Library, Cumulative Index to Nursing and Allied Health Literature (CINAHL), PubMed, Medspace and Medline. The key words used for the search were, exercise, depression, treatment, adult depressive patients, effects of exercise and mood symptoms. The search provided ten articles that were applicable to the PICOT statement for this EBP project. The levels of evidence (LOE) of each article were rated by using the Melnyk and Fineout –Overholt rating System for the Hierarchy of Evidence for Intervention/Treatment Questions (Meylynk and Fineout-Overholt, 2005).

### **Inclusion criteria**

- The inclusion criteria for the articles selected for the literature review were adults above 18 years who were participated in the exercise program for the treatment of the depressive symptoms.
- The research studies included in the literature review were trials that tested the use of the exercise program in the improvement of the depressive symptoms.
- Articles older than 10years also are included in the selected evidences, because they are classic references on which subsequent publications are based and cannot be excluded (Meylynk and Fineout-Overholt, 2005).

### **Exclusion criteria**

- Exclusion criteria were the exercise program for the use of exercise program for other purposes than the improvement of the symptoms of depression
- Any other study that does not meet any of the evidence based criteria in the Melnyk and Fineout-Overholt Rating System (2005).
- The research was restricted to human studies which were used only English language.

The levels of evidence of each article were rated by using the Melnyk and Fineout- Overholt Rating system for the Hierarchy of evidence Systematic review is considered to be Level 1 and strongest evidence and the synopsis of the which is thoroughly synthesized and analyzed to address a particular practice query and draw conclusion of the information assembled . Randomized controlled trials are true experiments, in which the subjects are randomly assigned to control and experimental groups, these are considered to be Level 2 evidence [Melnyk & Fineout-Overholt, 2005].

## **III. Literature Review**

The literature review is organized around the following themes: depression, diagnosis of depression, treatment modalities for depression, exercise in the treatment of depression and understanding of exercise for the treatment of depression.

**Depression:** Around 50 % of patients develop co morbid depressive symptoms along with cardiac disease, post stroke, Parkinsonism, chronic pain and rheumatoid arthritis [Leon, 2003]. The impact of the depression on the quality of life is very serious and it is increasing. In a systematic review done by Erikson et al explains about the etiology of the depression. Monoamine hypothesis is considered as the etiology of depression according to the biological model. This hypothesis explains that depression stems from erratic behavior in the signaling systems of monoamines essentially due to lack of serotonin which in turn enhances the feeling of depression due to the secondary lack of norepinephrine [Eriksson 2011].

**Diagnosis of depression.:** DSM -5 describes many symptoms of depression and these symptoms like depressed mood most of the day, diminished interest or pleasure, significant weight loss without dieting, insomnia or hypersomnia, psychomotor agitation or retardation, fatigue, feeling of worthlessness, diminished ability to think

and recurrent thoughts of death. Among these symptoms five or more symptoms have to be present for at least two weeks in order to diagnose depression.

**Findings**

The results of this review clearly indicate that there is sufficient evidence to enable us to make a judgment that the exercise programme can reduce the depressive symptoms. At the same time this will improve the physical condition of the patient. The study encourages the health care practitioner to develop and practice a regular exercise programme for the depressed patient. If the depressive symptoms are controlled with this modality of treatment, patient can reduce the amount of the anti-depressant medications and the associated side effects. Use of aerobic exercise which is supervised has effective in the treatment of depression.

**IV. Discussion**

In a systematic review of randomized controlled trials conducted by Perraton G.L et al [2009] concluded that the primary research topics on this subject support the use of supervised aerobic exercise in the treatment of clinical depression. In this study total of 14 randomized controlled trials which used supervised aerobic exercises and the parameter was 60-80% of maximum heart rate for 30minutes 3 times per week for 8 weeks period. Eriksson S et al [2011] performed a systematic review of eight studies which used physical exercise as an intervention to treat the major depression. The study concluded that the physical exercise has a mood enhancing effect and this can be effectively used to treat the depression. Another systematic review was done to rule out the effects of physical exercise on the depressive symptoms of aged population. The study used randomized controlled trials which were done to find out the effects of exercise treatment among the aged people. The result of this study shows that physical exercise as effective in aged population who has minor or major depression and also helped in reducing the depressive symptoms of those who have high depressive symptoms at their baseline [Sjosten & Kivela, 2006].

Palmer C states in her review that the depression will be a major contributor to the total health care cost of elderly population and by 2020; it is projected to be the leading cause of the disease [Palmer, 2005]. Palmer did an extensive review of medical and gerontological scientific literatures. There is a close relationship between depression and physical disability. Many elders consider exercise as an asset and benefit. This improves the self-esteem of the elders who participates in it. A complete physical examination must be done prior assigning the patient to the types of exercises and a cardiovascular risk assessment to be done. The exercise program should consist of strength, flexibility and aerobic exercise. At times the patients need to start the exercise in a block of 4-6 minutes and gradually increase the time block. In the study Palmer C [2005] states that goal setting, written prescription for the exercise program ,scheduled follow ups and individually planned exercises are effective ways to improve the compliance to the program [Palmer, 2005].

**V. Conclusion**

From this evidence based practice project [EBP], it is evident that participation in physical exercise can have a positive impact in improving the depressive symptoms of the patients. Even though this EBP needs a follow up study to confirm the positive effect, the result from the evidence based practice project [EBP] strongly support the inclusion of physical exercise in the treatment of depression exactly support the data. This is also associated with the improved self-esteem, relapse prevention and less use of maintenance medication in the treatment of the depression.

**Table 1-Literature Review Findings Table five peer reviewed articles only**

Authors/Date	Research Question/Purpose	Study Design, Profile of Sample/Sample size/Setting	Outcomes /Conclusion
Eriksson S et al (2011)	Physical exercise and depression	Design- Systematic review of 8 randomized control trials (RCT) literatures in databases PsycINFO and PubMed 2000-2010. Intervention-Treating depression with physical exercise	Physical exercise can be effective in treatment of depression. Exercise has a mood enhancing effect.
Holmgren, et al, (2010)	What is health benefit of a high-intensive exercise program on health-related quality of life and depression after stroke?	Design- A randomized control trials (RCT) patients with stroke and risk of falls. Intervention- physical therapy, occupation therapy and education sessions Sample size-34 Setting: Hospital	There was an improvement in the study group.
Perraton et al (2009)	Exercise parameters in the treatment of clinical depression.	Design- A systematic review of the randomized control trials (RCT) of the articles which	Use of aerobic exercise which is supervised has effect on the treatment of depression

		reported exercise as effective in treating depression. Sample size: 14 Intervention: Aerobic exercise	
Sjosten et al (2006)	The effects of physical exercise on depressive symptoms among the aged.	Design-Search of databases (MEDLINE,CINHAL, Psyc-ARTICLAES and PsycINFO) with26 studies: Intervention : Aerobic exercise Setting; Supervised group exercise class	Physical exercise may be effective in reducing the clinical depression and depressive symptoms.
Palmer .C (2005)	Exercise as treatment for depression	Design-Extensive review of the recent scientific literatures Sample-elder population with depression. Intervention-Exercise	Increasing physical activity has numerous physical and well as psychological effects and it is safe adjunct therapy and or alternative to medication therapy

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