



## DANCE THERAPY VS EXERCISE THERAPY FOR DEPRESSION IN YOUNG FEMALE ADULTS

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### ABSTRACT

Depression is an irresistible state of mind distorting on perceptions and feelings. National estimate indicates that only 23% of people with this disease seek treatment and only 10% receive adequate treatment in part because of the social stigma associated with treatment. Desperate and sorrow are two basic characteristics of depression. This study focuses on the differences in the effects of dance and exercise on depression. **METHODS AND MATERIALS:** A total of 30 participants fulfilling inclusion and exclusion criteria were selected for the study after having explained all the study procedure. Consent form were given and signed by the subjects healthy female adults aged between 18-25 years, subjects scored between 12-17 in Hamilton Rating Scale for Depression (HRSD17) were included for the study. Subjects who are Consuming >21 alcoholic drinks per week, attempt to suicide in last 2 years, currently drug abused, inability to exercise or dance due to medical condition, women planned for pregnancy or pregnant are excluded from the study. They were then divided into 2 groups, where GROUP A comprises of exercise and GROUP B comprises of dance therapy. **RESULT:** The p value for GROUP A is 0.0002 which is interpreted as extremely significant & for GROUP B is 0.0023 which is interpreted very significant. Hence statistically GROUP A has proved to be more significant than GROUP B. Thus, the null hypothesis is rejected & alternate hypothesis is accepted. Hence exercise is more impactful protocol than dance movement therapy, so the treatment protocol given to Group A can be used for mild depression as an effective non-drug treatment.

### KEY WORDS

Depression, Dance therapy, Exercise therapy, Hamilton rating scale

### INTRODUCTION:

Depression is an irresistible state of mind distorting on perceptions and feelings. National estimate indicates that only 23% of people with this disease seek treatment and only 10% receive adequate treatment in part because of the social stigma associated with treatment.

The effect of depression appears in the way of slowing down in movements due to energy decline. Daily works are either neglected or spent more effort and time on. The person often wants to be alone and avoid social relations. A decrease is seen in sexual desire and

interest. Depression is twice more prevalent in females than in males and the risk of recurrence is as high as 50-90%<sup>25</sup>.

Failure in school or work, loss of a loved person and illness are among the factors that cause depression most. Desperateness and sorrow are two basic characteristics of depression. The depression symptoms for young maybe usually seen as opposing, negativizes, uneasiness, inadaptability, behavior, attitude, alienation from society, alienation from family, carelessness in clothing, sensitivity to being rejected, inclining to narcotics drugs.

Dance and rhythmic movement have been used to develop expression and different emotions for centuries. Dance movement therapy has been used as a form of art rehabilitation in the western world since the early 1950's. Dance movement therapy combines with music, low exercise and stimulation that could provide a non-drug cure for mild depression.

Exercise can be a viable treatment because it can be recommended for most individuals and does not carry any negative social stigma, however, exercise has not yet met established efficacy standards, although some studies have demonstrated reductions in depressive symptoms with exercise.<sup>20-21</sup>

Using scores from the 17-item Hamilton rating scale for depression (HRSD17) as the primary outcome measure our purpose was to test whether the mean change in HRSD17 score from baseline increases in exercise group or Dance movement therapy group.

Numerous studies have revealed a relationship between regular exercise and improvements in mental health, including increased cognition, mood, and general quality of life<sup>14</sup> (Penedo and Dahn, 2005; Puetz et al., 2006). Although much of this research has examined the effects of aerobic exercise on mental health outcomes, resistance exercise (i.e., strength training) also produces many physiological and psychological benefits. In the only review of resistance exercise and mental health, increases in cognition, increases in self-esteem, and decreases in depression were noted across several randomized clinical trials (O'Connor et al., 2010)<sup>14-15</sup>.

#### **BACKGROUND OF THE STUDY:**

Previous observational and interventional studies have suggested that regular physical exercise maybe associated with reduced symptoms of depression. On the other hand, studies have shown significant reduction in depression due to regular dance therapy. However, no comparison has been done between to find out significant difference in effects of dance therapy and exercise. Current study focuses on the differences in the effects of dance and exercise on depression.

#### **AIM AND OBJECTIVE OF THE STUDY:**

To compare the effect of dance therapy and exercise for mild depression on young adult females.

#### **NEED OF THE STUDY:**

Therapy with better outcomes will be prescribed to the population as more effective non-drug treatment for depression.

#### **METHODOLOGY**

• **STUDY SETTING:** VENKATESHWARA DENTAL COLLEGE THALAMBUR

• **STUDY DURATION:** 12-Weeks

• **SAMPLE SIZE:** 30

#### **INCLUSION CRITERIA:**

- Healthy female adults
- Subject in the age group between 18-25 years
- Subjects having Hamilton Rating Scale for Depression (HRSD17) score between 12 to17

#### **EXCLUSION CRITERIA:**

- Consumption of >21 alcoholic drinks per week
- Attempt to suicide in last 2 years
- Currently drug abused
- Inability to exercise or dance due to medical condition
- Women planned for pregnancy or pregnant

#### **OUTCOME**

#### **MEASURE**

HAMILTON RATING SCALE FOR DEPRESSION

#### **PROCEDURE:**

A total of 30 participants fulfilling inclusion and exclusion criteria were selected for the study after having explained all the study procedure. Consent form were given and signed by the subjects. They were then divided randomly into 2 groups, where GROUP A comprises of exercise and GROPU B comprises of dance therapy.

#### **PROTOCOL:**

#### **GROUP A**

These protocols were followed on alternate days. (Monday, Wednesday, Friday). The total time taken for the experiment was 60 mins per session.

#### **10 mins:**

Warm Up (STRETCHING, NECK EXERSISE, SHOULDER & ARM ROTATION, LEG EXERCISES &HIP AND WAIST EXERCISES)

#### **For the next 40 mins:**

- Modified pushups: 10 reps 3 sets
- Press ups: 10 reps 3 sets
- Pelvic lifting: 10 reps 3 sets 10 counts
- Lunges: 10 reps 2 sets

Abs –

Straight

Oblique

Reverse

Sides

Each 10 reps 3 sets

- Plank: 10 reps 3 sets
- Hip –
  1. Inner
  2. Outer
  3. Front
  4. Back

Each 10 reps 4 sets

- Lower back –
  1. 4 legs
  2. R leg L hand
  3. L leg R hand

Each 10 reps 4 sets

- Squats: 15 reps 3 sets

**Last 10MINS:**

Cool down

**GROUP B:**

*These protocols were followed on alternate days. (Tuesday, Thursday, Saturday)*

**Frist 10 mins:**

Warm Up (STRETCHING, NECK EXERCISE, SHOULDER & ARM ROTATION, LEG EXERCISES & HIP AND WAIST EXERCISES)

**Next 40 mins:**

Dance movement therapy (MARIAN CHASE METHOD)

This method consists of 3 steps, these 3 steps are –

STEP 1: Mirroring – The subject must see the mirror and feel the problems & express it in front of the mirror.

STEP 2: Hand gestures – Subjects must move their hands in free and relaxed manner & try to feel the problems and express through hand gestures.

Step 3: Free movements – in this subject must move freely in a slow and constant pattern feel the music & try to forget all problem and reasons.

**Last 10 min:**

cool down

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## RESULT:

Total 30 subjects were participated in this study and divided into 2 groups. Group A (Exercise therapy) Group B (Dance therapy).

Table 1 shows the Hamilton rating scale for depression for Group A (exercise therapy) mean, standard deviation of pre- post values is the following 14.3, 10.26 and 1.87, 2.47 respectively. Group B (Dance therapy) mean,

standard deviation of pre – post values are the following 14.4, 9.6 and 2.02, 1.88 respectively.

HAMILTON RATING SCALE FOR DEPRESSION for Group A shows that the t- value of pre-post value is 4.89 and Group B pre- post value is 3.72. FIGURE 1 describes the t- value of Hamilton rating scale for depression for Group A (Exercise therapy) 4.89 and Group B(Dance therapy) 3.72 respectively

Figure 2 describes the mean and standard deviation of pre and post values of Hamilton rating scale for depression for Group A 14.3, 10.26 and 1.87, 2.47 and Group B 14.4, 9.6 and 2.02, 1.88 respectively.

This shows that p- value is significant in both groups. Significance within the groups is minimal.

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## DISCUSSION

Exercise has proved to be more effective than DMT for depression in young adult females. This study carried out with the aim of explaining the effect of dance and exercise training over depression, in which exercise has proved to be more effective over depression levels over the end of 12th week. In this research, Females suffering from depression in low degree were given dance & exercise therapy for 12 weeks where exercise has proved significantly more effective than dance over psychological effects and relaxation.

BENJER J have stated in his study that dance and moment therapy help the treatment of physical trauma, cancer, nervous breakdowns, chronic pain, heart disease and post-surgical pain<sup>33</sup>. LESTE AND RUST examined that the effects of dance on anxiety in 114 college students<sup>22</sup>. Subjects participated in modern dance classes for three months and anxiety levels significantly lowered. The observation seen in this study are also observed in accordance with previous studies done by<sup>16</sup> MEEKUMS ET AL. (2015), KOCH ET AL. (2014)<sup>16</sup>. These suggested positive effects of DMT on quality of life and on depression. Further, the aim of activity is to be attentive to the movement experiences and to develop the skills to be aware experiences, and to communicate about them in words. The results indicate that the 12-week dance intervention may be an effective adjunct therapy to improve depression, disability, and physical function in underserved adults. Possible reasons for exercise to be more effective can be due to the theories stated<sup>24</sup> by FRANK M PRENA ET AL. in their study in 2004. However, there are only few study evidences to prove these theories.

### Thermogenic hypothesis

The thermogenic hypothesis suggests that the rise in core body temperature following exercise is responsible for reduction in symptoms of depression. DE VERIES<sup>23</sup> explains that increase in temperature of specific brain regions, such as brain stem, can lead to an overall feeling of relaxation and reduction in muscular tension. While this idea of increased body temperature has proposed as a mechanism for relationship between exercise and depression, the research conducted on the thermogenic hypothesis has examined the effect of exercise only on feelings of anxiety rather than depression<sup>23, 1-2</sup>.

### Endorphin hypothesis

The endorphin hypothesis predicts that exercise has a positive effect on depression due to an increased release of beta endorphins following exercise. Endorphins are related to a positive mood and an overall enhanced sense of well-being. This line of research has not been without criticism. The debate remains as to whether plasma endorphins reflect endorphin activity in the brain. Some<sup>11,12</sup> have argued that even if peripheral endorphin levels are not reflective of brain chemistry, they could still be associated with a change in mood or feelings of depression. Several studies have shown increases in plasma endorphins<sup>11</sup> following acute and chronic exercise: yet it remains unclear if these elevations are directly linked with depression.

### Monoamine hypothesis

The monoamine hypothesis appears to be most promising of the proposed psychological mechanisms. This hypothesis states that exercise leads to an increase in the availability of brain neurotransmitters that are diminished with depression<sup>5</sup>. These increase in plasma and urine following exercise<sup>6</sup>. Animals studies have shown increase in serotonin and norepinephrine in various brain regions, but this is still unknown in humans.

### Distraction Hypothesis

This theory suggests that physical activity serves from the distraction from worries and depressing thoughts. In general, the ways of distraction for coping with depression has shown way significance in reduction in anxiety and depression. Exercise has been compared with other distractive activities in which exercise has proved to be effective and similar to others in its ability to aid in reduction of depression.

### Limitation of the study

Limitation of this study is a minimal sample size. It has been performed only for mild depression and in sample of female in age group of 12-16 and was not performed under supervision This study has not mentioned about exercise active or inactive samples. Further studies can be done on extended sample size and population with different degrees of depression.

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### CONCLUSION

The study was done for depression in young adult females where they were given dance movement therapy Group A and exercise therapy Group B. The study has concluded with Group A to be less Effective than Group B. Group A where dance movement therapy was given has got a very significant statistics while exercise have shown extremely significant statistics. Thus, Exercise is more impactful protocol than dance movement therapy, so the treatment protocol given to Group A can be used for mild depression as a effective non drug treatment.

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