

EFFECTIVENESS OF AEROBIC DANCE MOVEMENT THERAPY ON ANXIETY LEVEL AMONG ADOLESCENT GIRLS

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ABSTRACT

Adolescent period is not an age of problems and frustrations, in most of them it is golden age of adventure, romance and creativity. It is understandable that the occurrence of various psychosocial stressors during the transition from the adolescent to childhood is inevitable. Anxiety is among the most common mental, emotional and behavioural problems that occur during childhood and adolescent. Adolescent girls who suffer from excessive anxiety regularly experience a range of physical symptoms like muscle tension and cramps, Stomach Aches, headaches, pain in the limbs & back, fatigue or discomfort associated with pubertal changes. Anxiety in adolescent of great importance because anxiety in adolescent are associated with negative outcomes including peer relationship difficulties, academic failure and later onset of co morbid disorders including major depression and alcohol abuse. Aerobic dance is known to have powerful effect of the mind, body, and emotions. Aerobic dance movement is a type of therapy that uses movement to further the social, cognitive, emotional and physical development of the individual.

Key Words: Aerobic Dance Movement Therapy, Anxiety.

REVIEW OF LITERATURE

Literature Related to problem faced by adolescent girl:

Jankovi' c, Maru'si' c, & Boban, (2013,) reported that the national population of adolescents (243 million), In India, this age group forms 21.4% of the total population. Adolescents are also entitled to enjoy basic human rights- economic, political, social and cultural- but their inability to exercise these rights places the onus on the policy makers and adults to implement separate measures to ensure their rights. In India particularly, adolescents are put under pressure to perform well in school examinations. For some students, the experience of academic stress leads to a sense of distress, which is generally manifested in a variety of psychological and behavioural problems³. School students in India have a high stress level and higher rate of deliberate self-harm. Many recent studies have found relation between stress and suicidal ideas in school children. Stress also results in increased likelihood of substance abuse among adolescents.

Conducted a study to assess the effects of aerobic dance therapy and relaxation therapy on anxiety levels in college students. The participants consisted of 24 undergraduate students from a Catholic Liberal Arts College in New England and were divided into two treatment groups. The first was an aerobic dance therapy treatment group where students followed an instructor, via videotape, in order to ease their feelings of anxiousness. The other group was a relaxation therapy treatment, where the students listened to an audio tape consisting of the tensing and relaxing of muscle group, accompanied with deep breathing. It was predicted that the dance therapy session would experience a greater decrease in anxiety levels due to the process of self-expression and nonverbal communication, which allow for a greater release of the students feelings of anxiousness. All participants were administered the Spielberg State-Trait Anxiety Inventory to test for pre- and post-session anxiety. Findings indicated that both therapy sessions had a significant decrease on anxiety levels, with dance therapy levels having a greater decline than the relaxation therapy ¹

Randal Beaton (2013) In the present study, the prevalence of academic anxiety of high school students was found to be (63. %). Sheena.k.et.al., results showed that approximately 55% of the participants had increased anxiety level due to many demands and rapid changes in which students face increasing amounts of schoolwork.²

Randal Beaton (2012) determined the relationship between anxiety level and academic achievement by survey method results showed that 30% of the student experienced high anxiety 20% of student experienced medium anxiety and 50% student's experienced low anxiety⁷. The present study analysis revealed that effectiveness of aerobic dance movement therapy on academic anxiety was found to be statistically significant with $t= 6.14$ at $p<0.0001$. Duberg A, et.al., investigate whether dance intervention influenced self-rated health for adolescent girls with internalizing problems, resulted of 91% of the girls rated the dance intervention as a positive experience. It can improve self-rated health for adolescent girls with internalizing problems⁸. DeMesa-Simpson, Dinesha evaluated the relationship between dance/movement classes and disruptive behavior. The findings revealed that dance classes can an intervention to reduce anxiety and will develop self-control, self-regulation and exhibit less disruptive behavior

Ninety high schools girls were assessed to determine if aerobic dance alone or in combination with relaxation training had an effect on anxiety level. State and trait anxiety scores measured by the state trait anxiety inventory where used as pre-test and Post-test measures. Aerobic dance or in combination with relaxation training was administrated during the school physical education classes. High and low anxiety subjects were identified to determine if treatment had differential effects on anxiety level over time depending on the initial level of anxiety.³

Robyn Price, (2012) describes a study to test the potential of a aerobic dance movement therapy program as a treatment for anxiety. The program was developed by the author, drawing from the approaches of **Kier (2013)** and **Bourne (2010)** and incorporating elements from psychodynamic, developmental, self - psychology and cognitive behavioural approaches. Ten self-selected adults joined a community based aerobic dance movement therapy program for a ten week series of sessions. Assessment tools included a client Interview, Zung SAS questionnaire, movement analysis using the Samuels and Chaiklin movement observation scale and client feedback from eight out of the ten clients experienced a reduction in anxiety and those with no depression showed a higher level of improvement. Further research into the treatment of anxiety and depression is recommended, especially into the combination of verbal and aerobic dance movement therapy within a Multidisciplinary treatment approach.⁴

Leste and Rust, (2012) investigated the effects of aerobic dance on anxiety. State anxiety was assessed before and after a 3 month education programme, using the Spielberger State Trait Anxiety Inventory. The target group followed a class in aerobic dance. Control group were i) a physical education group to control for the effects of exercise ii) a music group to control for aesthetic sensitivity training and iii) a mathematics group. Several concomitant variables were measured: age, sex, attitude towards dance, and previous experience in sport, dance and relaxation. Aerobic dance training significantly reduced anxiety, but no control activities did so. Examinations of the concomitant variables showed that the result could not be accounted for by any obvious artefacts.⁵

Jeong. et.al (2012) conducted a randomized controlled trial in Korea found that aerobic dance movement therapy worked better than no treatment in adolescent girls with mild depression. This study assessed the profiles of psychological health and changes in neuron hormones of Adolescents with mild depression after 12 weeks of dance movement therapy Forty middle school seniors (mean age: 16 yrs) volunteered to participate in this study and were randomly assigned into either a dance movement group (n=20) or a control group (n=20). All subscale scores of psychological distress and global scores decreased significantly after the 12 weeks in the aerobic dance movement therapy group. Plasma serotonin concentration increased significantly and dopamine concentration decreased in the aerobic dance movement therapy group. These results suggest that dance movement therapy may stabilize the Sympathetic nervous system⁶

Lundy & Guff in, (2011) conducted a study using aerobic dance/movement therapy to augment the effectiveness of therapeutic holding with children. Research was conducted incorporating aerobic dance/movement therapy technique before and after therapeutic holding. Volunteer residential treatment

centre staff participated in a 4 hours aerobic dance movement therapy based training workshop integrating the techniques with the intervention. The study found out that aerobic dance movement therapy training increased adult awareness, sensitivity, perspective shifting ability, and confidence in the intervention while decreasing the necessity for physicality. It decreased the threat of trauma to adult participants.⁷

Literature Related to anxiety among adolescent girl.

Mandler and sarason University of London (2014) to assess the effectiveness of dance therapy on anxiety to improve concentration among children; with the sample size of 114. State anxiety was assessed before and after the therapy education program using the —Spielberger State Anxiety Inventory. The target group followed a class in modern dance.

Control Groups were

- (1) A physical education group to control the effects of exercise.
- (2) A group controls the aesthetic sensitivity training.
- (3) A mathematics groups. Several concomitant variables were measured, age, sex, attitude towards dance and previous experience in sports, dance relaxation.

The result shows that dance training significantly reduced anxiety and helps in developing concentration, whereas control group activities were not been obtained such as alike of experimental group.⁸

Goodill.et.al, (2013) conducted a pilot study of 21 university students showed that those who took a series of four to five dance therapy sessions in a period of two weeks significantly reduced their test anxiety as measured by a well-known exam called the test anxiety inventory. Afterwards, the subjects reported that their dance movement experience was Positive and provided them with psychological insight. The researchers concluded that dance therapy could be a viable method of treatment for students who suffer from overwhelming test anxiety and should be researched further.⁹

Parslow.et.al, (2012) conducted a study to review the evidence for the effectiveness of complementary and self help treatments for anxiety disorders and situational anxiety in children and adolescents. Systematic literature search using pub Med, psycINFO and the Cochrane library for treatments up to February 2006 were used as data sources. There were treatments for which intervention studies had been undertaken and reported. Studies on each treatment were reviewed by one author and checked by a second. A consensus was reached for level of evidence. Relevant evidence was available for biblio therapy dance and movement therapy, distraction techniques, humour, massage, melatonin, relaxation training, autogenic training, avoiding marijuana and music therapy.¹⁰

Truppi (2011) compared the efficacy of two interventions, multi - model verbal therapy and dance/movement therapy for the treatment of these issues with adolescent girls in a residential placement. This study found both methods to be equally beneficial. There were no significant differences found when shame, sexual concerns, dissociation, and post - traumatic stress were measured after using these two forms of Interventions This was attributed to the possibility that the group size was too small, and the length of treatment was not sufficient.¹¹

Palusk & Schwenk (2011) explanation of the effect exercise leads to increase in self-confidence and enhancement of mood. The mastery hypothesis proposes that individual gain feeling of independence and control and therefore experience less anxiety.¹²

Literature Related to effectiveness of Aerobic dance movement therapy

Fatai A. Maruf (2014), Hypertension is associated with dyslipidemia. Thiazides adversely affect serum lipid levels in hypertensive. There is currently a dearth of information on benefits of aerobic exercise training on serum lipid levels in individuals on thiazides and this study aimed at bridging this gap in knowledge. This randomized-controlled trial involved 120 newly-diagnosed adults with essential hypertension (≥ 65 years). They were treated with 50 mg of hydrochlorothiazide + 5 mg of hydrochloride amiloride and 5 or 10 mg of amlodipine for 4–6 weeks before they were randomly assigned into exercise group (EG) and control group.

(CG). Only EG underwent 12- week aerobic dance training at 50–70 % of heart rate reserve three times per week. Low-density lipoprotein cholesterol (LDL-C), high-density Lipoprotein cholesterol, triglyceride and total cholesterol were measured and recorded at baseline and post-study¹³

Dr.Hendry N. williford (2013) to the intensity of the exercise. ‘Low intensity’ dance exercise is usually characterised by less large muscle activity and/or less low extremity impact, and music of slower tempo. Dance exercise representative of this variety requires a cost of approximately 4 to 5 kcal/minute. Several trials, however, have shown that vigorous ‘high intensity’ aerobic dance which entails using the large muscle groups can require 10 to 11 kcal/minute. The associated training outcomes could be affected by such differences in dance exercise intensity and style. Aerobic dance exercise is currently one of the most Commonly practised adult fitness activities the majority of the research pertaining to this form of exercise supports its application as a valid cardiovascular training alternative, especially for adult females if performed according to the American College of Sports Medicine (ACSM) guidelines. If however, the participant is interested in modifying body composition, training frequency, duration, or efforts toward caloric restriction may need to be increased or altered beyond those employed in the aerobic dance training investigations. The amount of energy expended during a bout of aerobic dance can vary dramatically.¹⁴

Bengain stoek(2013). Cancer-related fatigue is a multidimensional symptom with an underestimated prevalence and severity in cancer patients. The aim of the study was to evaluate the effect of dance as a holistic sportive activity in cancer patients under active anticancer treatment with fatigue as endpoint. Forty patients under active anticancer treatment (adjuvant (25), palliative (11) or neoadjuvant (4) with moderate or severe fatigue (≥ 4 on the visual analogue scale) were investigated in two groups for severity of fatigue (visual analogue scale, Functional Assessment of Chronic Illness Therapy: Fatigue questionnaire), quality of life (European Organization for Research and Treatment of Cancer, Quality of Life Questionnaire) and physical performance (6-minutewaltest) before and after the study period—group A ($n = 20$): intervention (10 dance classes in 5 weeks in addition to counselling) and group B ($n = 20$): control (no dance, standard of care, counselling). We found significant improvements for cancer –related fatigue in the intervention group (baseline mean \pm SD 5.95 ± 1.701 , end-of-study mean 3.8 ± 1.542 , $p = 0.001$, reduction of 36 %) compared to the control group (baseline mean 4.95 ± 0.999 , end-of study mean unchanged at 5.0 ± 1.556 , $p = 0.887$); as well as for emotional and social functioning scales and physical performance ($p < 0.05$). Dance might be an appropriate, effective approach for treatment of cancer-related fatigue.¹⁵

Leelarungrayub D, Saidee K,(2012) This study evaluated the change in blood oxidative stress, blood interleukin-2, and physical performance following 6 weeks of moderate intensity and duration aerobic dance exercise in 24 sedentary women. Blood samples were Collected at rest twice before (baseline) and after the 6-week intervention for analysis of protein hydro peroxide (PrOOH), malondialdehyde (MDA), total antioxidant capacity (TAC), and interleukin-2 (IL-2) levels. Maximal treadmill run time (Time(max)) and Maximal oxygen consumption (VO(2max)) were also measured. All variables were statistically analyzed with a repeated measurement ANOVA and Tukey post hoc. No differences were noted in any variable during the baseline period ($p > 0.05$). After aerobic dance exercise, (VO (2max), Time (max), TAC and IL-2 were significantly increased, whereas MDA levels were decreased significantly ($p < 0.05$). Prop did not change either between baseline measures or after exercise. It can be concluded that aerobic dance exercise at a moderate intensity and duration can improve physical fitness, decrease MDA, and increase TAC and IL-2 in previously sedentary women.¹⁶

Dr. Fatma Arslan (2012). Regular physical activity leads to significant changes in terms of the reduction of health-related risks. The purpose of this study was to investigate the effects of an eight –week step-aerobic dance exercise programme on weight loss and body composition parameters in middle-aged sedentary obese women. This study comprised an eight-week randomised controlled trial. A total of 49 healthy sedentary obese women participated in this study voluntarily. They were randomly divided into two groups: those undertaking a step aerobic dance extended (BMI), weight, and waist circumference, waist-hip ratio, four-site skin fold thickness, fat percentage, basal metabolic rate and lean body mass were assessed before and after the completion of the step-aerobic dance exercise programme. After the eight weeks of the step-aerobic dance exercise programme, significant differences were found in the subjects' weight, BMI, body composition parameters, waist - hip ratio (WHR), waist circumference (WC), fat percentage, lean body mass (LBM) and basal metabolic rate (BMR) in the experimental group ($p < 0.05$). There were no significant differences in the control group after the experiment in terms of the same measures ($P > 0.05$).¹⁷

Indian Association of Child and Adolescent Mental Health (2014) Cruz, R. F., and Berrol, C

The fact of anxiety in United States about 85% of students feel stressed daily, 77% of students feel stress over academic concerns and 74% of students feel stress about grades¹. In American psychiatric association (APA) survey, the students between the ages of 15 and 24 commit suicide annually in United Kingdom (UK) because 73% considered school far more stressful for students than in the previous decade, which more than likely contributes to the climbing suicide rate. 89% believed high-stakes classroom assignments and exams played a major role in nurturing anxiety^{2,18}.

Csikszentmihalyi, M., (2011)

The present study conducted at Kancheepuram district in Tamil Nadu, with the quantitative approach and quasi experimental non equant pre-test, post-test design. The setting was chosen on the basis of feasibility in terms of availability of adequate samples and the cooperation extended by the management and school teachers. The investigator screened 268 adolescents out of which 170 (63.4%) adolescents were having mild and moderate academic anxiety. The samples were selected in purposive sampling technique at Government higher Secondary school in S.P kovil and Nanthivaram. 128 students screened from S.P kovil Government higher secondary school, out of which 88 adolescents has academic anxiety used as study group and 140 students screened from Nanthivaram, Government higher secondary school, out of which 82 adolescents has academic anxiety used as control group.

The investigator make the adolescents 4 group each group has 12 students in each group to perform high impact exercise, involve intense jumping actions that are synchronized with rhythmic beats of the music being played extent to which consists of four phases like:

1. Preparation phase(10-min)
2. Incubation phase(5-min)
3. Illumination phase (25-min)
 - Step I-March step (2-min)
 - Step II-High Step (3-min)
 - Step III- Grapevine (8min)
 - Step IV-split v or v step (3-min)
 - Step V-mambo (3min)
 - Step VI-heel back (3-min) spontaneous movements (3min).
4. Evaluation phase (5-min).

The aerobics dance movement therapy was given continuously for 4-weeks daily in weekdays one hour to the study subjects about 45 minutes aerobics dance movement and 15 minutes share their experiences.

The analysis depicted that regarding the pre-test level of academic stress in study group, 9.09% adolescents had slightly academic anxiety level, 90.9% had moderate academic anxiety. In post-test 17.04% adolescents had slightly academic anxiety; 82.95% moderate academic stress. In control group, pre-test 2.43% adolescents had slightly academic anxiety; 97.56% had moderate academic anxiety. In post-test 100% moderate academic anxiety and none of them had anxiety free.¹⁹

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