

## Assessment of the Effectiveness of Aerobic Dance Movement Therapy on Academic Stress Among Adolescents in Selected Schools, Kancheepuram District. Tamilnadu

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### ABSTRACT

Academic stress in children and adolescents has been recognized as one of the most common areas of pediatric psychopathology. Highest suicide rate in Tamilnadu due to exam pressure among adolescents. The aerobic dance movement therapy is a type of psychotherapy that uses the rhythmic body movements to relieve stress and improve the social, cognitive, emotional and physical development of the individual. Based on this concept the study was conducted. The main aim of the study is to determine the effectiveness of aerobic dance movement therapy on academic stress among adolescents selected school at Kancheepuram district, Tamilnadu. Quasi experimental non equalent pre-test, post-test control group design was used. There are 268 students screened by the academic stress scale was developed by Dr. Balaji Rao (2013) out of which 170 adolescents who had slightly stress, and moderate stress were selected 88 in study group and 82 in control group and the intervention was given for one month followed by the post test was conducted. The analysis revealed that comparison of post test of study and control group mean and SD value of adolescents academic stress was found to be statistically highly significant with  $t = 6.14$  at  $p < 0.0001^{**}$ .

**Key words:** Aerobic dance movement therapy, academic stress, adolescents.

### INTRODUCTION

Adolescence is a period of many critical transitions in physical, psychological, economical and social and they are full of energy, have significant drive and new ideas. They are a positive force for a nation and are responsible for its future productivity provided to develop in a healthy manner. The largest generation of adolescents in history, 1.2 million is preparing to enter adulthood in this rapidly changing world. Their educational and health status, their readiness to take on adult roles and responsibilities and the support they receive from their families, communities and government will determine their own future and the future of their countries.

The fact of stress in United States about 85% of students feel stressed on a daily basis, 77% of students feel stress over academic concerns and 74% of students feel stress about grades<sup>1</sup>. 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<sup>2</sup>.

Indian Association of Child & Adolescent Mental Health (2014) 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 problems<sup>3</sup>.

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.

The National Crime Records Tamil Nadu (2014) reported that the Indian state especially in Tamilnadu with highest suicide rate. At least in part, this is happening due to exam pressure among adolescents, emphasizing the imperative need to understand the pattern of anxiety and various factors contributing to it among students<sup>8</sup>. So aerobic dance movement therapy is a type of psychotherapy that uses movement to further the social, cognitive, emotional and physical development of the individual. Dance therapy is often an easy way for a person to express emotions, even when his/her experience is so traumatic he or she can't talk about it<sup>4</sup>.

#### **Aerobics dance movement therapy**

Aerobics is a form of physical exercise that combines rhythmic aerobic exercise with stretching and strength training routine with a goal to improve all elements of fitness. It can be done at least 3 times a week and every sessions take about 20-30 minutes. Aerobic can helps our body and minds relax. It is usually performed to music and may be practiced in a group setting led by an instructor as well as the many physical benefits; exercise is also one of the easiest and most effective ways of improving the mental health.

#### **Mechanism of aerobic dance movement therapy**

The mental benefits of aerobic exercise have a neurochemical basis. Exercise reduces levels of the body's stress hormones, such as adrenaline and cortisol. It also stimulates the production of endorphins, chemicals in the brain that are the body's natural painkillers and mood elevators. Endorphins are responsible for the "runner's high" and for the feelings of relaxation and optimism that accompany many hard workouts — or, at least, the hot shower after the exercise is over<sup>5</sup>.

#### **Benefits of aerobic dance movement therapy**

The aerobic dance movement therapy is very useful to the adolescents in many ways of easing stress and anxiety, reducing tension, lifting the mood and relieving depression, sharpening brainpower, increasing self-esteem, improving sleep, boosting energy, coping better, Gain confidence, take mind off worries and get more social interaction.

#### **METHODS AND MATERIALS**

The present study conducted at kancheepuram district in Tamilnadu, with the quantitative approach and quasi experimental non equalant 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 stress. 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 stress used as study group and 140 students screened from Nanthivaram, Government higher secondary school, out of which 82 adolescents has academic stress used as control group.

For assessing the demographic variables of some factual information of age, sex, level of education of the parents, habitat, type of family, family income and Clinical variables are previous knowledge of relaxation therapy, previous

experience of relaxation therapy were elicited by demographic questionnaire. The academic stress assessed by the academic stress scale ( $r=0.87$ ) was developed by Dr.BalajiRao (2013), consists of 40 items scale, rated from 1-5 that indicate No stress -1, Slightly stress-2, Moderate stress-3, High stress-4, Extreme stress-5. The total score is 200, and scoring interpretation is 1-40 no stress, 41-80 Slightly stress, 81-120 Moderate stress, 121-160 high stress, 161-200 Extreme stress.

#### Description of intervention

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.

#### RESULTS

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

**Table 1: Assessment of pre-test and post-test level of academic stress in study group and control group**

Level of academic stress	Study group (n=88)				Control group (n=82)			
	Pre-test		Post test		Pre-test		Post test	
	No	%	No	%	No	%	No	%
Slightly academic stress	8	9.09	15	17.04	2	2.43	0	0
Moderate academic stress	80	90.9	73	82.95	80	97.56	82	100

**Table 2: Frequency and percentage distribution of clinical variables of adolescents in study and control group**

Clinical variables		Study group (n=88)		control group (n=82)	
		N	%	n	%
Previous knowledge of any relaxation therapies	Yoga	40	45.5	42	51.2
	Laugh therapy	2	2.3	1	1.2
	Meditation	19	21.6	23	28.0
	Any other therapies of relaxation	27	30.7	16	19.5
Previous experience of any relaxation therapy	Yes	8	9.1	17	20.7
	No	80	90.9	65	79.3

The above table reveals that previous knowledge of relaxation therapy, majority of the adolescents in study group 40 (45.5%) and control group 42 (51.2%) were known yoga. The previous experience of relaxation therapy, majority of the adolescents in study group 80 (90.9%), and in control group 65 (79.3%) were not having previous experience.

The analysis revealed that with respect to study group the mean value of pre-test was 109.67 with standard deviation of 8.24, mean score of post-test was 83.47 with standard deviation of 6.37 of the adolescents' academic stress was found to be statistically highly significant with  $t = 6.14$  at  $p < 0.0001^{**}$

**Table 3: Determine the effectiveness of aerobic dance movement therapy on academic stress among adolescents in study group**

S. No	Group	Pre test		Post test		ttest
		Mean	SD	Mean	SD	
1	Study group (n= 88)	109.67	8.24	83.47	6.37	T= 6.14 $p < 0.0001^{**}$
2	Control group (n=82)	108.62	7.27	107.35	7.12	T= 7.6 $P < 0.001^*$
	t test	t =0.878 , p=0.38 Not significant		t = 6.84, $p < 0.001^*$		

## DISCUSSION

In the present study, the prevalence of academic stress of high school students was found to be (63.%). Sheena.k.et.al., results showed that approximately 55% of the participants had increased stress level due to many demands and rapid changes in which students face increasing amounts of school work<sup>6</sup>.

Randal Beaton determined the relationship between stress level and academic achievement by survey method results showed that 30% of the student experienced high stress 20% of student experienced medium stress and 50% student's experienced low stress<sup>7</sup>. The present study analysis revealed that effectiveness of aerobic dance movement therapy on academic stress 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 problems<sup>8</sup>.

DeMesa-Simpson, Dinesha evaluated the relationship between dance/movement classes and disruptive behavior. The findings revealed that dance classes can an intervention to reduce stress and will develop self-control, self-regulation and exhibit less disruptive behavior<sup>9</sup>.

The present study reveals there was no significant association between academic stress and demographic variables of study and control group. Krishan Lal reported that academic stress among adolescent in relation to intelligence and demographic factors. The demographic factors such as (male and female) and (urban and rural) are not key factor in academic stress among high school students. However, all students of high school suffer from equal level of academic stress due to learning environment<sup>10</sup>.

## Conclusion

The present study assessed the effectiveness of aerobic dance movement therapy

on academic stress among adolescents. The result of the study concluded that aerobic dance movement therapy was effective in reducing the academic stress among adolescents of the high school students. Implication of this study that the aerobic dance movement therapy after 3 or 6 months to 1 year can be carried out and increase

the duration of intervention more than 1 month to explore into the retaining impact of in adolescents and management of students with academic stress. The recommendation of this study is the school health nurse or counselor should create an awareness of aerobic dance movement therapy should practice in an regular schedule in the school on management of academic stress.

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