

EFFICACY OF BEHAVIOUR MODIFICATION AND YOGA AMONG THE ADOLESCENT

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ABSTRACT

Efficacy of Behavior modification and Yoga module was aimed to facilitate adolescent students diagnosed with Emotional and Behavioural problems. The purposive sample for the current study consisted of 47 adolescents (Boys=22, Girls=25) selected from Sree Konaseema Specialities Hospital, Amalapuram, East Godavari of Andhra Pradesh. Youth Self Report developed by Achenbach (2001) was used. The tool assesses emotional and behavioral problems of adolescents between 11-18 yrs. Statistical tests used for the present study included Mean, Standard Deviation, t-test and Paired Sample t-test. The results observed a significant difference between pre-test and post-test measures of Emotional and Behavioral problems on the application of Behavior Modification and Yoga module as an intervention for the adolescent students.

Keywords: Adolescent, Behaviour Modification, Efficacy, Yoga and Emotion

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INTRODUCTION

Adolescents are the future citizens of any country and it is imperative to systematically address their needs (Manpower Profile, 1996). According to World Health Report (2001) Adolescence is marked by immense turmoil in emotional and behavioral spheres. WHO defines adolescence as the period of life between the ages of 10-19 years. The adolescent struggles to develop his individuality while still conforming to societal norms. Rapid urbanization and modernization have exposed them to changes in society. The resultant breakdown in family structure, excessive or minimal control confuses the adolescent and makes him/her especially vulnerable to maladaptive patterns of thinking and behavior. Healthy adulthood depends upon the successful resolution of these emotional and behavioral problems. Treading on this tightrope, most adolescents go through to adulthood normally. All adolescents may not be so fortunate, to get the ideal societal support for this smooth transition. Some develop maladaptive patterns in emotional and behavioral profiles.

This augers ill for the individual's future resulting in depression, delinquency and suicides besides of other problems. Khosla, M. (2013), the Indian constitution asserted that all boys and girls up to the age of fourteen must be in schools. Adolescence can be categorized into two early adolescence and late adolescence. Early adolescence (10-15) is a time of many physical, mental, emotional, and social changes. During this period, early adolescents need special care as they undergo a complex process of emotional, physical and social changes. At times, failure to adjust to these changes leads to mental health problems. Both girls and boys are susceptible to suffer from these problems but, for adolescent girls, the problem gets compounded due to societal factors. Unfortunately, these needs of adolescents have not adequately met by the health system.

It is surprising to note that there are only a few studies about male adolescent psychosocial problems from India. Most of the epidemiological surveys on school going children and adolescents have reported a wide variation (20-33%) in the prevalence of psychosocial problems (Anita et al., 2003). Emotional and behavioral problems of students in schools are much-emphasized agenda for research in education in general and psychology in particular. In spite of many attempts to understand and to know the severity of emotional and behavioral problems of school students by the psychologists, still, the problem is not understood completely. Not many studies have been carried out to find out the different behavioral problems of school going children and the severity of the problem. This topic has become a major concern for psychologists as they are finding it difficult to tackle the problem (Malavika Kapur, 1997).

Various studies in India at the secondary school level, suggest that much of the disruptive behavior of the child in the classroom could be related to the behavior mismanagement in the school, and possibly to inadequate development of child's high potentialities. Thus, the classroom behavioral problems, as well as scholastic difficulties, appear to be related to socio-economic status, to the unrealistic expectations of parents and teachers regarding the child's school performance and behavior. The disturbed child, in addition, had undergone a significantly greater number of stressful events (Malavika Kapur, 1997).

According to Malavika Kapur (1995) observed that the incidence of behavioral problems is as high as 10 to 15 percent, the magnitude of which is great in view of the tens of thousands of students attending schools in every town. Besides this observation, few epidemiological studies reflect the same observation.

Considering these studies one gets the feeling that behavioral problems in school children are increasing day by day. Some of the researchers found that adolescents are thought to experience higher emotional feelings compared to adults (Verma, & Larson, 1999). Female respondents reported more emotional problems compared to their male counterparts (Abidinasir Ahmed & Raju MVR, 2009).

Authorities in the area stress that adolescents are more emotional than adults and exhibit also more emotional extremes than adults (Bradburn, 1969; Campbell, 1981; Diener et al., 1985; and Verma & Larson, 1999). According to Raju et al., (2004) found that students from private schools were found to exhibit more truancy and late coming to school than students from government schools. Generally, behavioral problems seen in children in schools can be categorized into emotional problems, conduct problems and specific problems seen at high school students.

Emotional problems: among emotional problems, anxiety, excessive fear, phobia, extreme sensitivity, shyness and timidity, difficulty in maintaining friends, social withdrawal, moodiness, depression, day dreaming, nail biting, thumb sucking, compulsion, jealousy, school refusal, soiling, emotional factors and physical illness. But coming to high school students all these emotional problems may not be seen and in some cases, unusual emotional symptoms are seen. Achenbach (1991) listed items of disruptive behavior or inappropriate behavior in a classroom which are as follows: humming odd noises, argument, failure to finish things started, behaving like opposite sex, defiant, talking back, hyperactive, irritable, fidgeting, daydreaming, destroying own or other's things, getting into fights, biting fingernails, anxious, sleeping in class, clumsy behaviour, refusing to talk, acting out behaviour, screaming, stubborn, moody, sulking, swearing, obscene language, overtaking and withdrawn behavior.

According to Ommen, Kapur & Sarmukaddam (1987) results showed that children rated as overactive in the school setting were also found to be superior to the clinic cases in their level of intellectual functioning, special perception, and organization, better memory for visual and auditory stimuli, were less impulsive, and had higher social maturity. The overactive children in the school setting were also superior in their performance on some tests when compared to their normal counterparts.

In a study by Dhavale (1994) school children were assessed. In 73.06 per cent of the children, problems such as enuresis, mental retardation, behavioral problems, and hyperactivity, were identified, and auditory stimuli were less impulsive and had higher social maturity. The overactive children in the school setting were also superior in their performance on some tests when compared to their normal counterparts.

The overall prevalence rates of 19.6 percent, i.e. 84 cases were found to be disturbed (29 girls and 55 boys). Forty-seven had minor depression, 21 had symptoms of anxiety, eighty had a psychogenic headache, seven had giddiness, inability to concentrate and vague pains and aches, and one boy was schizophrenic. The borders were significantly more disturbed than day scholars, eight adolescents were reported to be in need of psychiatric help. This study reported that academic performance and psychiatrist morbidity were inversely related.

Interventions: behavior modification and yoga module are an alternative therapy for managing emotional and behavioral problems among adolescent students.

Behavior modification is the use of empirically demonstrated behavior change techniques to increase or decrease the frequency of behaviors, such as altering an individual's behaviors and reactions to stimuli through positive and negative reinforcement of adaptive behavior and/or the reduction of behavior through its extinction, punishment and/or satiation. The experimental tradition in clinical psychology used it to refer to psychotherapeutic techniques derived from empirical research. It has since come to refer mainly to techniques for increasing adaptive behavior through reinforcement and decreasing maladaptive behavior through extinction or punishment. Two related terms are behavior therapy and applied behavior analysis. Emphasizing the empirical roots of behavior modification, some authors consider it to be broader in scope and to subsume the other two categories of behavior change methods. Since techniques derived from behavioral psychology tend to be the most effective in altering behavior, most practitioners consider behavior modification along with behavior therapy and applied behavior analysis to be founded in behaviorism. While behavior modification encompasses applied behavior analysis and typically uses interventions based on the same behavioral principles, many behavior modifiers who are not applied behavior analysts tend to use packages of interventions and do not conduct functional assessments before intervening.

Behavior modification programs form the core of many residential treatment facility programs. They have shown success in reducing recidivism for adolescents with conduct problems and adult offenders. Behavioral modification or therapy and counseling are effective for individuals who require treatment for some sort of behavior change, based on the principle such as reinforcement, shaping, and extinction that behavior is learned, and can, therefore, be unlearned, or reconditioned.

Behavioral Therapy and counseling concentrate on the 'here and now' without focusing on the past to find a reason for the behavior. Behavioral interventions, such as token reinforcement programs, contingency contracting, and response cost, are commonly used with these children and have been found to be effective in improving classroom behavior. Children with emotional and behavioral problems often respond well to these interventions; because they provide frequent and immediate feedback incorporate secondary or potentially reinforces (Barkley, 1990).

Yoga Therapy: yoga is one such alternative that shows promise as an intervention for a variety of social, emotional, behavioral, and academic difficulties (Nardo and Reynolds, 2002). Yoga has an important role to play in the treatment of emotional and behavioral problems. Yoga techniques like Pawanmuktasna, Suryanamaskar or Sun Salutation, Anulom-Vilom Pranayam and Shavasana affects the body, internal organs, endocrine glands, brain, mind and other factors concerning Body - Mind complex. With a regular Yoga practice, adolescents with emotional and behavioral problems can manage and develop a greater body awareness, Emotional balance and concentration - increasing their capacity for schoolwork and creative play. This can also, in turn, aid their self-esteem.

METHODOLOGY

Objectives of the Study

- To examine the emotional and behavioral problems among adolescent students.
- To find out the significant difference between emotional and behavioral problems among adolescent students with some demographical variables like gender and age,
- To find out the efficacy of behavior modification and Yoga asana module for copying or reducing emotional and behavioral problems among adolescent students.

Hypotheses:

- There will be significant differences among demographical variables like gender and age, with emotional and behavioral problems among adolescent students.
- The developed behavior modification and Yoga asana module would be effective for coping or reducing emotional and behavioral problems among adolescent students.

Sample: the purposive sample consisted of 47 adolescents (Boys =22; Girls=25) collected from Sree Konaseema Speciality Hospital, Amalapuram, East Godavari district of Andhra Pradesh.

Inclusion criteria: In Phase I, Adolescents from 6th -10th Class are included in the study. And in Phase III, newly diagnosed with emotional and behavioral problems among adolescent students will be included.

Exclusion criteria: Children, young adults, middle-aged and old age were excluded from the study. Adolescents with comorbid conditions like learning disabilities, academic stress, academic motivation, and academic achievement are also excluded from the study.

Tools: Youth Self Report developed by Achenbach (2001) was used. The tool assesses emotional and behavioral problems of adolescents between (11-18 yrs). The YSR syndrome scales are anxious-depressed, withdrawn-depressed, somatic complaints and social problems. The emotional problems are anxious-depression, withdrawn-depression and somatic complaints, social problems. There are 112 items in this self-report measure. The test-retest reliability reported for the internalizing, externalizing and total problem scales of the instrument are 0.80, 0.89 and 0.87 respectively. The internal consistency reliability (alpha coefficient) of these scales is 0.90, 0.90 and 0.95 respectively. The content validity of the of the YSR items has been supported by research and feedback. The items of the YSR were found to significantly discriminate ($p<0.01$) between referred and no preferred subjects with demographically similar characteristics (Achenbach and Rescorla, 2003).

Design of the study: this study followed quantitative research approach and makes use of descriptive and Pretest-Posttest design techniques to attain its intentions.

Demographic Variables: the demographical or Institutional variables included in the present study are Gender and Age. Gender consists of boys and girls while Age consists of two groups - 11-13 years, 14-15 years.

Procedure: the present study consisted of three phases. In Phase I, permission was obtained from the hospital. After seeking permission from the concerned authority of hospital, the subjects or clients were informed and explained about the purpose of the study. The researcher gave instructions to them about filling the questionnaire. They were asked to read the instructions carefully and give their authentic responses after reading each of the items and select responses as 'Zero' indicate to 'not true', '1' indicated to 'somewhat' and '2' indicates to 'very true'. The student was informed to respond only to one option to every item. They are also told to answers all the items without fail. They were also informed that the responses will be kept highly confidential and used for research purposes only. The instrument was administered. Wherever doubts were raised, the researcher explained to the respondents.

In Phase II, based on the findings of Phase I data, behavior modification and Yoga Asana Module intervention was designed. Behavior modification took 21 sessions. It takes 25 minutes per one session and Yoga for a period of seven weeks, each session took 45 minutes. Both behavior modification and Yoga module were administered to the experimental group.

In behavior modification used the techniques like shaping, reinforcement, and extinction, In Yoga module, Pawanmuktasna, Suryanamaskar or Sun Salutation, Anulom-Vilom Pranayam and Shavasana was employed to the group. These sessions were conducted in evening hours. In Phase III, testing of the effectiveness of the developed behaviour modification and yoga module intervention was done in the experimental group. Soon after, the completion of intervention of seven weeks duration Post-test on Emotional and Behavioural Problems or Youth Self Report (11-18 Yrs) was conducted.

Statistical analysis: after scoring, the collected responses were tabulated, analyzed and interpreted using SPSS (W-16) by Mean, Standard Deviation, t- test and Paired Sample t-test.

RESULTS AND DISCUSSION SECTION

Table-1: Emotional and Behavioral problems with Gender

Sub scales	Age	N	Mean	Std. Deviation	t-value
Anxiety-Depression	Boys	22	11.86	1.98	1.38
	Girls	25	10.84	2.93	
Withdrawn-Depression	Boys	22	5.09	1.82	.105
	Girls	25	5.16	2.56	
Somatic complaints	Boys	22	9.59	2.77	1.35
	Girls	25	10.52	1.92	
Social problems	Boys	22	8.92	2.86	.858
	Girls	25	8.24	2.52	

** p < 0.01. Significant level, *p < 0.05 significant level

Table-1, Results show that there is no significant difference between genders with anxious-depressed, withdrawn-depressed, somatic complaints, social problems in the experimental group. It means that both boys and girls are experienced equally in above dimensions in the experimental group. According to Abdiniasir Ahmed & Raju (2009) results indicated that Males have significantly higher emotional problems than females whereas females score significantly higher score in behavioral problems. The other study by Kapi et al. (2007) results found that Greek girls scored significantly lower than Finnish girls on the somatic complaints scales. The main differences marked in this comparison were the higher level of anxiety and depression in Greeks than Finnish and the higher level of externalizing problems in Finnish girls than boys. Cultural standards could play an important role in explaining these differences. On the contrary, Woo et al. (2007) found that Boys obtained significantly higher scores on the Social Problems.

Table 2-Emotional and Behavioral problems with Age

Sub scales	Age	N	Mean	Std. Deviation	t-value
Anxiety-Depression	11 -13	27	11.15	2.58	.529
	14-15	20	11.55	2.58	
Withdrawn-Depression	11 -13	27	5.07	2.34	.190
	14-15	20	5.20	2.12	
Somatic complaints	11 -13	27	9.41	2.52	2.39*
	14-15	20	11.00	1.86	
Social problems	11 -13	27	8.26	2.46	.878
	14-15	20	8.95	2.93	
	14-15	20	14.40	2.48	

** p < 0.01. Significant level, *p < 0.05 significant level

Table-2, Results show that significant difference in age with somatic complaints in the experimental group. There is no significant difference between age and anxious-depressed, withdrawn-depressed, social problems in the experimental group. It means that both ages range 11-13 years and 14-15 years experienced equally in above dimensions in the experimental group. In the dimension of somatic complaints, the mean score (m =11.00) of age range 14-15 years is experienced higher than mean score (m =9.41) of age range 11-13 years in the experimental group. The t- value is (t = -2.39), which is significant, (P< 0.05). According to Abdinasir Ahmed & Raju (2009), the results indicated the middle adolescent students have significantly higher emotional problems than early adolescents (p< 0.01).

In another study by Ramesh Kumar Mishra (2005) found that Thai boys (56%) scored more than Indian boys (54.40%) and Indian girls (45.60%) more than Thai girls (44%) have. In the same age group of 15 years, old the same of 9th standard (India) and Thai from secondary school. A significant difference between boys and girls in control group was reported after protest in Indian adolescents. In another study, Liu, X. (2001) concluded that behavioral and emotional problems tend to increase with age and cluster in the same individuals.

Table3: Results on significant difference between pretest-posttest on Anxiety- Depression

Variables	Mean		Std . Deviation		t-value
	Pretest	Posttest	Pretest	Posttest	
Anxiety- Depression	11.32	4.36	2.55	2.29	12.95**

** p < 0.01. Significant level

Table - 3, Results shows that significant difference between pre-test and post-test on anxiety-depression. In pre-test, the domain of anxiety- depression, mean score (m =11.32, std. =2.55) is higher when compared to followed by mean score (m =4.36, std. =2.29) of post-test, and t-value is (t= 12.95) which is highly significant, (P< 0.01). It means interventions like behavior modification and yoga module was effectively worked for reducing or managing anxiety - depression. According to Munoz-Solomando (2008), Results showed that behavioral therapy is in the treatment of children and adolescents with generalized anxiety disorder, depression, obsessive-compulsive disorder and posttraumatic stress disorder. We found no or insufficient evidence to determine whether cognitive behavioral therapy is useful for the treatment of antisocial behavior, psychotic and related disorders, eating disorders, substance misuse, and self-harm behavior.

Table 4: Results on significant difference between pretest-posttest on Withdrawal - Depression

Variables	Mean		Std. Deviation		t-value
	Pretest	Posttest	Pretest	Posttest	
Withdrawal-Depression	5.13	2.53	2.22	1.67	11.05**

** p < 0.01 significant level

Table - 4, Results shows that significant difference between pre-test and post-test on withdrawn-depression. In the pre-test, the domain of withdrawn- depression, mean score (m=5.13, std=2.53) is higher when compared to followed by a mean score (m =2.22, std.=1.67) of post-test, and t-value is (t= 11.05) which is highly significant, (P< 0.01). It means interventions like behavior modification and yoga module was effectively worked for reducing or managing withdrawn - depression.

According to Sy Atezaz Saeed et al. (2010), results showed that yoga is an effective intervention for anxiety and depression treatment. In another study by Javnbakht et al. (2009) results found that average prevalence of depression in the experimental group pre and post Yoga intervention was 12.82+/-7.9 and 10.79+/-6.04 respectively, a statistically insignificant decrease (p=0.13).

However, when the experimental group was compared to the control group, women who participated in yoga classes showed a significant decrease in state anxiety (p=0.03) and trait anxiety (p<0.001). The results of yoga program changes in state anxiety after the intervention were non-significantly different between the two groups (P=0.243), while changes after the intervention were significantly different between the two groups (P=0.002) for trait anxiety in adolescents.

In other study Shirley Telles et al. (2011) states that the results found that significant decrease in state anxiety (P<0.001), somatization of stress (P<0.01), improved health-related quality of life (P<0.01), self-rated quality of sleep (P<0.01), and decrease in discomfort due to over-breathing (P<0.001). No changes (except decreased discomfort due to over-breathing; P<0.01) occurred in the control group. This study suggests that a brief yoga program may be beneficial in decreasing anxiety, somatization of stress and discomfort, improving health-related quality of life and self-rated sleep quality.

According to Andrea L. Forfyflow (2011), this article addresses the empirical research on yoga as an effective, complementary, clinical intervention for anxiety and depression based on an examination of studies published from 2003 to 2010. There is a discussion of study findings and research limitations and suggestions for researchers and future research. Yoga appears to be an effective clinical intervention for anxiety and depression. In another study, Eskandar Rahimi & Sosan Bavaqar (2010) the results of the study are overall findings showed that anxiety and depression significant difference between pretest and post-test experimental group. Also, test anxiety and depression between the experimental and control groups at $p < 0.05$ was a significant difference.

According to Shirely et al. (2012) results found that both yoga groups showed a trend towards less music performance anxiety and significantly less general anxiety/tension, depression, and anger at end-program relative to controls, but showed no changes in PRMDs, stress, or sleep. Similar results in the two yoga groups, despite psychosocial differences in their interventions, suggest that the yoga and meditation techniques themselves may have mediated the improvements. Our results suggest that yoga and meditation techniques can reduce performance anxiety and mood disturbance in young professional musicians.

According to Nidhi Gupta et al. (2006), the aim of the study was to study the short-term impact of a comprehensive but brief lifestyle intervention, based on yoga, on anxiety levels in normal and diseased subjects. The study was the result of operational research carried out in the Integral Health Clinic (IHC) at the Department of Physiology of All India Institute of Medical Sciences.

The intervention consisted of *asanas*, *pranayama*, relaxation techniques, group support, individualized advice, and lectures and films on the philosophy of yoga, the place of yoga in daily life, meditation, stress management, nutrition, and knowledge about the illness. The outcome measures were anxiety scores, taken on the first and last day of the course.

Anxiety scores, both state and trait anxiety were significantly reduced. All the above studies suggest that behavior modification yoga module worked effectively in decreasing anxiety, somatization of stress and discomfort, improving health-related quality of life and self-rated sleep quality.

Table 5: Results on significant difference between pretest-posttest on somatic complaints

Variables	Mean		Std. Deviation		t-value
	Pretest	Posttest	Pretest	Posttest	
Somatic complaints	10.09	4.85	2.38	1.27	15.44**

** p < 0.01 significant level

Table - 5, Results shows that significant difference between pre-test and post-test on somatic complaints. In pre-test, the domain of withdrawn- depression, mean score (m=10.09, std=2.38) is higher when compared to followed by a mean score (m =4.85, std.=1.27) of post-test, and t-value is (t= 15.44) which is highly significant, (P< 0.01). It means interventions like behavior modification and yoga module was effectively worked for reducing or managing somatic complaints.

Table 6: Results on significant difference between pretest-posttest on social problems

Variables	Mean		Std. Deviation		t-value
	Pretest	Posttest	Pretest	Posttest	
social problems	8.55	3.91	2.66	1.32	12.35**

** p< 0.01 significant level

Table-6, Results shows that significant difference between pre-test and post-test on social problems. In pre-test, the domain of social problems, mean score (m=8.55, std=2.66) is higher when compared to followed by a mean score (m=3.91, std.=1.32) of post-test, and t-value is (t= 12.35) which is highly significant, (P< 0.01). It means interventions like behavior modification and yoga module was effectively worked for reducing or managing social problems.

Conclusions: the present study was conducted to identify the efficacy of behavior modification and Yoga asana module for managing emotional and behavioral problems among adolescent students. The results observed that behavior modification and Yoga asana module have effectively worked on anxiety-depression, withdrawal-depression, somatic complaints, and social problems in adolescent students.

Recommendation: regular follow-up of the experimental group is an important criterion in monitoring their behavior by the parents, teachers, psychologist and individual self at regular intervals. Yoga is an ancient native traditional art and therefore, the role of Yoga and its impact should be best utilized by educational institutions, and parents preferably with the support of a trained Yoga therapist.

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