

**EFFECT OF BEHAVIORAL ACTIVATION THERAPY ON DEPRESSION**

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**ABSTRACT:**

**Background:** According to the survey conducted by WHO (2021) One in six people are in the age group between 10-19 years. Adolescence is a developmental stage in which individual undergoes changes in their physical, psychological and cognitive development. Adolescent experience changes in their perceptions & social expectations. This affects an adolescent to feel, think, make decisions & interact with the world around them. As per the global report of WHO in September 2020, depression was observed as the leading cause of illness and disability between the age group of 15-19 years. **Purpose:** The main objective of the study is to assess the effect of Behavioral Activation Therapy on Bio-physiological and Biochemical measures on Depression among Adolescents. **Methods:** True experimental research design (Pretest and posttest design) was obtained for the present study to check the feasibility of the effectiveness of Behavioral Activation Therapy among adolescents with Mild and Moderate Depression. Demographic variable and a standardized tool Beck Depression Inventory-II (BDI-II) was given to the study participants. The sample size was 10 adolescents with Mild and Moderate

Depression. True experimental research design was used between two group pretest and posttest design). BMI and Salivary Cortisol was calculated prior to the interventions and after the interventions in experimental group and control group. Experimental group received Behavioral Activation Therapy and routine care for control group. Behavioral Activation Therapy involves 5 sessions Situation-mood-activity cycle, solving intruistic issues, social skills training, shaping healthy behaviors, rewards and follow up behavior contract. The duration of intervention was one month. After one month of duration Post test was conducted in both experimental and control group. **Result:** It revealed that there is a probability of demographic variables 0.05 and less was considered as statistically significant. The distribution of gender, type of family, place of living and family history of psychiatric illness was similar in both control and experimental groups showing the homogeneity of groups. **Conclusion:** Behavioral Activation Therapy creates awareness about therapy in reducing the level of Depression.

**KEY WORDS:** Behavioral Activation Therapy, Adolescence, BMI, Salivary Cortisol, Depression.

## INTRODUCTION

Adolescence, is a conversion phase of growth & development between the childhood and adulthood. The World Health Organization (WHO) defines adolescent is an individual between the age group of 10 to 19 years.

World Health Organization reported that depression affects 3 million people over the years and it is a reason for high risk of Suicide. [World Health Organization \(WHO, 2017\)](#).

Adolescence is the rapid transformation phase of growth & development. Biological changes happen during this stage such as, acquisition of muscle mass, distribution of body fat, secondary sex characteristics. There is a greater impact on adolescents that is endocrine changes such as hormones that affect hormonal maturation and production of gonadal sex steroids. In physical period, there is an increased Body Mass Index in girls and delayed Body Mass Index in boys. This cause obesity in adolescent girls and boys differently.

Everyone experiences sadness and unhappiness in day to day lives. If a person is depressed, he or she cannot engage in enjoyable activities and loss of interest in their daily activities, changes in appetite (either increased or decreased), sleeping too much or less sleep, fatigue, feelings of worthlessness, helplessness and hopelessness, problems with concentration and thoughts of suicide.

Adolescence is a unique identity. Adolescents are most vulnerable to mental health problems because of their Physical, emotional and social changes that leads to abuse, violence exposure to poverty. Adolescents with mental health conditions are particularly vulnerable to discrimination, stigma, educational difficulties and risk-taking behaviors. Depression is more prevalent among adolescents about 1 % between the age group of 10-14 years, and 2.8% between the age group of 15-19-years.

Adolescents are depressed, and they become less active. To improve the activeness in them opportunities are given for the adolescents to be positive and rewards are given. The one way to make the adolescents energetic is only through an evidence-based treatment that is called Behavioral Activation Therapy. **Behavioral Activation (BA)** is a component or a skill used in

Cognitive Behavioural Therapy. (CBT). Behavioral activation is a coping strategy as well as a short-term treatment which has an enormous effect on adolescents' mood. It helps the adolescents to understand their behavior, emotions and cognitive work which helps to connect between thoughts and emotions.

Behavioral Activation for depression helps the adolescent to live a meaningful and pleasurable life. Steps involved in learning is to know about the submissive (vicious) cycle of inactivity > depression > inactivity. By understanding this cycle an adolescent need to energize and activate themselves to feel better. Behavioural activation helps the adolescent to make them connected between their behaviour and their mood. It helps to seek out and experience more positive in their lives. The treatment helps to manage the difficult situations and helps to find out alternative ways to unhelpful habitual behaviours.

### NEED FOR THE STUDY

Worldwide, Depression is the most common mental health problem among adolescents. Depression is linked with significant disability in adolescents. Due to depression, adolescents undergo serious social and educational impairments that results in the acceleration rate of smoking, misuse or substance abuse (misuse of drug substances) that results in obesity. So, it is the foremost period to recognize and care adolescent depression.

Adolescents account more than 1.2 billion worldwide, and about 21% of Indian population. Globally, more than 322 million people, **suffer from depression** (World Health Organization, 2021). Depression is the fourth leading cause of illness and disability among adolescents between the age group of 15-19 years. Worldwide, Adolescents experiences 10-20% of mental health problems, but majority of them did not explore any support from the family and society.

YavuzKoşan et al (2022) conducted a mixed method study to evaluate the effectiveness of Behavioral Activation Therapy on adolescent depression at selected high schools, Turkey. A total of 20 samples were selected by using nested sampling method. Behavioral Activation Therapy was administered to the students individually for 12 weeks. Behavioral Activation Therapy is an effective treatment in improving the adolescent's mood and behavior by reducing depressive score for the participants in the experimental group. Adolescents have expressed that this Behavioral Activation Therapy is effective in reducing avoidance behavior, controlling anger, and improves in self-esteem and social interaction. Parents consider Behavioral Activation is a skill-based treatment which an individual adolescent mould themselves to change and practice to improve their mood.

This study is going to assess the effectiveness of the Behavioural Activation Therapy (BAT) helps to reduce the depressive symptoms. It is believed that findings of the present study indicating the influence of BAT on reduction of depression level in adolescents which will facilitate the treatment of the individuals and prevent the stress factors stimulates the depressive symptoms. Thus, the researcher is very much interested in conducting this study.

#### **STATEMENT OF THE PROBLEM:**

A study to assess the effectiveness of Behavioral Activation Therapy on bio-physiological and bio-chemical measures on depression among adolescents at selected schools in Puducherry.

#### **OBJECTIVES:**

- To assess the level of depression among adolescents both in experimental and control group before and after the intervention.

- To assess the effectiveness of behavioral activation therapy on depression among adolescents in experimental group.
- To assess the effectiveness of behavioral activation therapy on level of bio physiological & biochemical parameters among adolescents with depression in experimental group.
- To associate the pretest and posttest level of bio physiological & biochemical parameters among adolescents with depression both in experimental and control group.
- To correlate the pretest and posttest level of bio physiological & biochemical parameters among adolescents with depression both in experimental and control group.

## **MATERIALS AND METHODOLOGY**

### **Study Design**

The research design used was true experimental design. This study focused on the evaluation of the effectiveness of Behavioral Activation Therapy(BAT)among adolescents who are affected by both Mild and Moderate Depression.Participants were randomly assigned to the control group and experimental group. Tools containing demographic variable, Standardized Beck Depression Inventory- II were used for pre and post assessment for both the groups. Bio physiological and Bio chemical parameters such as BMI and Salivary cortisol were studied to assess the level of depression before and after the interventions.

### **Settings and Samples:**

Participants were chosen from selected schools, Puducherry. The study was conducted in the month of February 2023. Adolescents who met the inclusion criteria were included for the research study. The sample size of the study is ten in each group.

### **Methodology:**

After obtaining ethical approval from Institutional Ethical Committee at Saveetha University, Chennai the researcher obtained permission from constituent Principal and class adviser of each participant. After that data were collected with the use of Demographic variable and Beck Depression Inventory-II, Informed consent was explained to each participant. All the participants were explained about Behavioral Activation Therapy sessions. The researcher motivated to follow the activities in the morning and evening. This Behavioral Activation Therapy was practiced for the period of one month among 20 adolescents 10 in experimental and 10 in control group were segregated for the pilot study. The researcher established rapport with the participants. The participants in the experimental group were made to sit in a circular fashion facing each other and researcher is the moderator to implement the therapy. Privacy and pleasant environment were chosen for implementing BAT program. The BAT was administered for a month period with 30-45mts sessions for 3 days per week. Activity worksheets was given for them to practice daily. If they are not doing on time researcher will call them and remind to do the worksheets. At the end of the week after each session the adolescents has to submit their worksheets. Sessions was based on resolving intruistic issues which includes time management presentation by the researcher, Brain storming sessions to identify the cause of problem in the adolescents. Social skills training and shaping behaviors helps them to modify them into a positive mood with positive reinforcement and rewards.

In the interventional group out of 10, 8 samples were attended the sessions regularly. The ten samples had regular follow up of sessions and their depression level was observed to decrease from moderate to mild.

## RESULTS

### Table 1

#### **Effectiveness of Behavioral Activation Therapy on depression in adolescents**

n = 10

Test	Group	Depression Level		Statistical analysis	
		Mild	Moderate	Pre / post test	All tests
Pre test	Control	2	8	P = 0.329	P = 0.019
	Experimental	4	6		
Post test	Control	2	8	P = 0.007	
	Experimental	8	2		

Table 1 reveals that in the pretest 20% showed mild Depression and 80% revealed moderate depression in the control group and in the experimental group 40% showed Mild Depression and 60% showed moderate depression. In the post test also 20% and 80% showed mild and moderate depression in the control group, but in the experimental group 80% and 20% showed mild and moderate depression. It was statistically significant (P=0.007). Analyzing the pre-test and the post-test together also revealed that there is a statistically significant change in depression(P=0.019). This shows that the Behavioral Activation Therapy is beneficial in reducing the depression level.

**Table 2**

**Comparison of demographic variables of control and experimental groups for homogeneity**

n = 10

S.No	Variable	Category	Control	Experimental	Statistics
1.	Gender	Male	5	6	P= 1.0
		Female	5	4	
2.	Type of Family	Nuclear	8	8	P= 1.0



		Joint	2	2	
3.	Place of Living	Rural	4	1	P= 0.303
		Urban	6	9	
4.	Family h/o psychiatric illness	No	8	6	P= 0.628
		Yes	2	4	

Table 2 revealed that there is a probability of demographic variables  $\leq 0.05$  and less was considered as statistically significant. The distribution of gender, type of family, place of living and family history of psychiatric illness was similar in both control and experimental groups showing the homogeneity of groups.

## DISCUSSION

Depression is one of the most common psychiatric problems. As per the UNICEF (2021) estimated that globally, one in seven adolescents experience mental disorders. In this both boys and girls aged between 10-19 years had a prevalence of anxiety and depression about 42.9%.

In experimental group the post assessment results shows that there is about (8)80% of adolescents level of depression was reduced after the Behavioral Activation Therapy sessions and there was a change in their BMI and salivary cortisol level.

YavuzKoşan et al (2022) conducted a mixed method study to evaluate the effectiveness of Behavioral Activation Therapy on adolescent depression at selected high schools, Turkey. A

total of 20 samples were selected by using nested sampling method. Behavioral Activation Therapy was administered to the students individually for 12 weeks. Behavioral Activation Therapy is an effective treatment in improving the adolescent's mood and behavior by reducing depressive score for the participants in the experimental group. Adolescents have expressed that this Behavioral Activation Therapy is effective in reducing avoidance behavior, controlling anger, and improves in self-esteem and social interaction. Parents consider Behavioral Activation is a skill-based treatment which an individual adolescent mould themselves to change and practice to improve their mood.

The overall findings of this pilot study report showed that the tools are effective and appropriate to conduct the main study. Salivary cortisol was carried out by a laboratory technician in Fastha Computerized Lab, Pondicherry which enhanced accuracy and consistency in the reports. The study highlights the need and awareness about their thoughts, emotions and restless mood to feel relaxed in adolescents.

### **CONCLUSION:**

Recent trend move towards Behavioral Activation Therapy creates awareness to propose new research in psychiatry. Our present study is about an effect of a Therapy in reducing the level of Depression. Pilot study concluded that there is a significant relationship between pre and post assessment of Beck Depression Inventory among the adolescents. The feasibility of conducting such research study justifies the need to put an effort to get an overall effectiveness of this therapy to reduce the level of depression among adolescents in India.

### **CONFLICT OF INTEREST:**

There is no conflict of interest.

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