

Efficacy Of A Comprehensive Intervention On Emotional & Behavioural Problems (Ebbs) Among Adolescents: A Pretest- Posttest Control Group Design

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KEYWORDS

Adolescent, intervention, Internalizing, Externalizing, Emotional & Behavioural Problems (EBPs).

ABSTRACT

Objective: The main objective of this study was to test the efficacy of a Multi-component intervention program (strategies) over emotional and behavioural problems (EBPs) among school adolescents.

Methods: This research uses Pretest- Posttest Control Experimental Group. The outcome measurement used was Youth Self-Report™ –Narrow-Band Scale (Achenbach and Rescorla, 2001). The sample of 50 students with age range 14 to 18 years was administered on YSRTM. From these 50 20 students who fall into clinical consideration were selected for experimental (n=10) and control group (n=10). The intervention is mainly tailored to Internalizing (anxiety, depression and somatic complaint) as well as externalizing (rule breaking and aggressive behaviour), including other (Cognitive & Social) problems.

Results: The findings showed significant improvements in posttest measures of EBPs namely anxiety, withdrawal depression, social problems, thought problems, offending behaviour, aggressive behaviour, and other problems. The finding supports multi component intervention for EBPs among school adolescents. The finding could facilitate the adaptation of the intervention in other settings, potentially amplifying its impact.

INTRODUCTION

The incidence of emotional and behavioral disturbances among adolescents is mounting worldwide, posing significant challenges for public health administrations and educational systems. These challenges include depression, anxiety, conduct disorders, and attention-deficit/hyperactivity disorder (ADHD), which have been associated with substantial short- and long-term detriments to individuals and societies (Merikangas et al., 2010; Polanczyk et al., 2015). Adolescence, the stage of transition from childhood to adulthood, is characterized by extraordinary physical development alongside emotional and social role changes, rendering adolescents particularly vulnerable to emotional and behavioral problems (Paus et al., 2008).

Unaddressed emotional and behavioral problems in adolescents can not only jeopardize their future but also lead to adverse effects on academic achievement, family relationships, and susceptibility to substance abuse or criminal behavior, potentially culminating in suicide (Copeland et al., 2011; Kessler et al., 2007). Furthermore, these issues often persist into adulthood, contributing to chronic mental health problems and the global burden of disease.

Therefore, the development and implementation of early intervention plans to mitigate these problems and their consequences are critical for improving the health and overall well-being of affected individuals. Despite the known efficacy of several intervention strategies, such as cognitive-behavioral therapy (CBT) and family-based interventions, significant gaps remain in the literature. While many studies focus on clinical populations or high-risk groups, there is a need for further research documenting the outcomes of interventions in broader, school-based, or community settings

(Fazel et al., 2014). Additionally, the integration of new technological advances, such as digital health tools, holds promise for enhancing accessibility and engagement among adolescents (Hollis et al., 2017).

To address these gaps, a comprehensive, multi-modal intervention program targeting all secondary school students with emerging behavioral problems is essential. This study aims to contribute to existing knowledge by evaluating the effectiveness of integrated intervention approaches in a general adolescent population. Specifically, it will explore the differential impacts of various intervention components, such as face-to-face and digital coaching, as well as differences in parental involvement in the process. This nuanced understanding will inform the development of more effective, scalable, and personalized interventions for adolescents facing emotional and behavioral challenges.

In conclusion, addressing the mental health needs of adolescents with emotional and behavioral problems is imperative for fostering healthier, more resilient future generations. This study will not only help close existing knowledge gaps in the literature and innovate intervention approaches but also develop an efficient strategy for improving mental health among this vulnerable group.

Prevalence of Emotional and Behavioral Problems in India

The use of EBPs among the adolescent population in India has garnered increased attention, reflecting growing recognition that mental health issues cannot be ignored, particularly among youth. Research in this area has revealed a wide range of prevalence rates influenced by factors such as geographic region, socio-economic status, cultural differences, and the specific types of emotional and behavioral disorders considered.

For instance, Malhotra and Patra (2014) highlighted in the Indian Journal of Psychiatry that mental disorders do not discriminate between children and adults in India, with up to 20% of children and adolescents suffering from mental health issues, some of which go undiagnosed and untreated. This underscores the need for comprehensive mental health services and targeted interventions for this vulnerable population.

Similarly, Sagar et al. (2017) pointed out in the Indian Journal of Pediatrics the prevalence of specific EBPs, such as conduct disorders, anxiety, depression, and ADHD, varied widely among Indian youth, with depression and suicidal actions demonstrating particularly high rates. Sidana et al. (2012) found in a study conducted in a semi-urban South Indian population that approximately 12% of adolescents exhibited symptoms of depression, highlighting the prevalence of mental health problems among Indian teens.

Additionally, research by Sharma et al. (2018) focusing on urban adolescents in Northern India reported a prevalence rate of behavioral problems at around 15%, further emphasizing the urgent need for targeted interventions and policies to address these issues effectively.

OBJECTIVE OF THE STUDY

1. To Assess the Prevalence and Severity of EBPs among Adolescents

2. To verify the efficacy of MultiFactorial Intervention over EBPs among school adolescents.

SAMPLE: For the study, a sample of 50 school going adolescents (Mean age 14.25±1.94 yrs)

. were selected at the initial stage through convenience sampling technique. These adolescents were administered on YSR. Based on their obtained score they were selected for experimental and control groups. The inclusion criteria for selecting participants in these both groups was obtained score on YSR has to be under clinical consideration i.e t-score >63, aged 12 to 18,

.Physical and Mental Fit, and enrolled in a diverse range of academic subjects, including Mathematics, Science, Social Science, Information Technology (IT), English, and Hindi.

OPERATIONAL DEFINITION

Emotional and Behavioral Problems (EBPs): In this study, EBPs refer to a spectrum of EBPs encompassing adolescent psychopathology, introduced as a distinct classification system for childhood and adolescent maladjustment. This taxonomy, based on empirical data, categorizes maladjustment into two main syndromes known as internalizing and externalizing problems (Achenbach, 1995).

Outcome measurement

Youth Self-Report™ (2001) by Achenbach and Rescorla (2001). This measure contains problem scale which assess emotional/behavioral problems in three broadband scale including eight narrow-band scales i.e. Internalizing; ii) Externalizing; & iii) Neither internalizing nor externalizing (NINE) **-Internalizing problems:** The inner conflict issues has become a category of the emotional and behavioural difficulties, under Internalizing, which comprises problems such as anxiety (Anx), depressed (Dep) and somatic Complaints (SC).

- I. **Externalizing problems:** Externalizing disorders are distinct emotional and behavioural issues identified by outwardly directed ^{symptoms}, including aggressive behavior (Agg) and rule breaking (RB) behaviours that disregard rules.
- II. **Neither Internalizing Nor Externalizing (NINE):** NINE comprises social (Soc), thought (Tho), and attention (Att) issues which cannot be classified as either of internalizing or externalizing groups.

Procedure

Sample Selection: The Study participants were sourced out through the collaboration with Evergreen public school from Delhi. Formal Permission was obtained to conduct study. In pre- test condition, a sample was administered on YSR™. Based on P-scores (>63), 10 students were included in the intervention study. 50 students were selected for sample according to inclusion and exclusion Criteria. Further, to see the efficacy of intervention 10 students with clinical consideration were selected.

Informed Consent: Before the initiation of data gathering, a detailed orientation session was organized for potential study participants. Detailed insights regarding the study's methodology, the possible risks and advantages, as well as the participants' voluntary engagement were shared. Informed consent documents were issued, with sufficient opportunity provided for inquiries and further explanations.

Assent Procedure for Adolescents was made for those who participate in the study. This step entailed a tailored explanation of the study's details in a manner suitable for their age, confirming their comprehension of their involvement, and securing their agreement to participate. The assurance was made on confidentiality. The data was collected from school premises, in a setting that was both private and pleasant. Appropriate time and place were selected where people could open up and provide detailed information. Adequate time was allocated for participants to fill out the ASEBA Youth Self-Report Scale. Pre-intervention assessments were carried out for both groups followed by intervention only for the experimental group. No such intervention was provided to the control groups. Post-intervention assessments were carried out again for both groups once the intervention was over.

Post-Assessment Debriefing: Following the assessment's conclusion, a debriefing session was conducted for participants, providing insights into the study's findings and addressing any further questions or concerns, ensuring participants were fully informed of the study's outcomes and their contributions. The obtained data was analysed through suitable statistical techniques.

RESULTS

In the present study an attempt was made to investigate the efficacy of Multi-Component Intervention (MCI) over emotional and behavioural problems (EBPs) using YSR™ (Narrow- Band Scale) for school adolescents. The findings are as follows-

a) Prevalence of EBPs

Table 1 : Summary of Descriptive Analysis for EBPs for School Adolescents (N = 50).

EBPs	N	Minimum	Maximum	Mean	SD
Anx	50	5	25.00	20.32	3.56
Dep	50	4	14	9.23	5.67
SC	50	5	18	13.24	2.41
Soc	50	5	21	17.36	3.57
Tho	50	4	23	17.56	4.35
Att	50	3	16	11.73	2.56
RB	50	5	28	22.56	3.89
Agg	50	6	32	25.56	4.56
Oth	50	3	19	14.56	3.56

Anxiety (Anx), Depressed (Dep), Somatic Complaints (SC), Aggressive behavior (Agg) Rule Breaking Behaviour (RB), Social (Soc), Thought (Tho), and Attention (Att), and Other (Oth) issues

Descriptive analysis for EBPs revealed the prevalence of EBPs at clinical consideration for their EBPs under Internalising, Externalising and NINE as found in clinical borderline range. To elaborate for Internalizing comprising sub-scale namely anxiety, depression and somatic complaints these values indicate higher incidence of problems that are mainly within the self, such as fear, nervousness, worries, self-consciousness, sadness, withdrawal, timidity, secretive as well as various somatic complaints such as tiredness, headache, nausea, and eye deficits as reflected in borderline clinical range (BCR) for school going adolescents. While considering externalizing, descriptive findings disclosed incidence of problems that precisely involved conflicts with other people and their expectations exhibited as rule breaking and aggressive behaviours are high enough to be considered as a problem for adolescents. To elaborate the obtained scores for both problematic behaviours segregated into externalizing as they fall into clinical borderline range, it unveiled that school adolescents' behaviour is highly characterised with breaking rule, lying, cheating, stealing, running away, truant, using drugs and tobacco, arguing, being disobedient, demanding, tempered, stubbornness, suspiciousness, teasing etc. As regards neither internalizing or externalizing (NINE), the descriptive value also reflected the prevalence of social and cognitive problems. More meticulously for social (dependent, troubled, jealous and doesn't get along etc.), and cognitive (less-sleep, strange ideas, repetitive act, unrealistic thought, lack of concentration, daydreaming, impulsiveness, inattentiveness etc.) problems, which are endorsed to be high enough for clinical consideration.

To condense the descriptive analysis highlighted that, EBPs are high enough to be diagnosed under clinical range for school going adolescents.

b) Efficacy of Multi-Component Intervention (MCI) over EBPs

Table 2: Summary of Descriptive Analysis for Experimental and Control Groups in Pretest & Post Conditions

<i>Pretest</i>						<i>Posttest</i>					
<i>Exp</i>			<i>Cont</i>			<i>Exp</i>			<i>Cont</i>		
<i>EB</i>	<i>M</i>	<i>T</i>	<i>EB</i>	<i>M</i>	<i>T</i>	<i>EBP</i>	<i>M</i>	<i>T</i>	<i>EBPs</i>	<i>M</i>	<i>T</i>
<i>Ps</i>			<i>Ps</i>			<i>s</i>					
74	8.10	68	85	9.32	71	55	6.03	61	79	9.79	70
69	7.47	67	83	9.09	71	55	5.94	61	92	10.19	73
84	9.28	71	79	8.70	70	58	6.25	62	79	8.58	70
94	9.99	73	98	10.60	74	85	9.19	71	97	10.63	74
71	7.64	67	85	9.36	71	59	6.45	62	85	9.38	71
78	8.52	69	99	10.83	74	62	6.74	61	103	11.39	73
85	9.22	71	100	10.98	74	77	8.28	65	91	9.95	70
82	9.05	81	106	11.74	76	66	7.07	62	102	11.21	73
92	10.16	73	97	10.61	74	79	8.67	66	98	10.75	72
95	10.3	73	99	10.82	74	83	9.11	67	97	10.69	71

Result Table 2 displays the individual scores of each participant for EBPs in pretest and posttest conditions. For each participant for both groups i.e experimental & control in both two conditions (Pretest & Posttest), the table presents total scores, mean values, and T-scores for EBPs. The descriptive values revealed the decreased score after intervention for participants of the experimental group. However, no such variation was observed in EBPs for the control group.

Table : Summary of t-test (Paired) Analysis for Experimental group (n=10) in Posttest Condition

EBPs	Pretest		Posttest		MD	t	p
	M	SD	M	SD			
Anx	8.90	.9944	6.90	1.96	2	3.72	.005
Dep	9.20	2.04	7.30	2.21	1.9	3.94	.003
SC	8.90	1.96	8.30	1.70	0.6	1.26	.239
Soc	10.3	2.11	8.30	2.10	2	4.74	.001
Tho	9.5	3.02	7.90	2.64	1.6	4.00	.003
Att	8.90	1.37	8.10	1.59	0.8	1.71	.121
RB	9.00	3.19	6.50	2.36	2.5	6.22	.000
Agg	8.90	1.91	7.40	1.71	1.5	4.39	.002
Oth	8.80	1.31	7.30	1.47	1.5	4.707	.001

Anxiety (Anx), Depressed (Dep), Somatic Complaints (SC), Aggressive behavior (Agg) Rule Breaking Behaviour (RB), Social (Soc), Thought (Tho), and Attention (Att), and Other (Oth) issues

To compare EBPs using narrow-Band Scale of YSR in pretest-posttest condition of the Experimental group, a paired sample t-test was conducted. The result (Table 3), clearly indicates the efficacy of MCI as significant over anxiety ($t(9) = 3.72$, $p < .01$), Withdrawn ($t(9) = 3.94$, $p < .01$), Thoughts Problem ($t(9) = 4.00$, $p < .01$), Rule-Breaking between ($t(9) = 6.228$, $p < .001$), Aggressive ($t(9) = 4.392$; $p < .01$), Other Problems ($t(9) = 4.707$, $p < .01$). However, for Somatic Complaints ($t(9) = 1.26$, $p > .01$), and Attention Problem ($t(9) = 1.71$, $p > .01$) the result was substantiated as non-significant. To conclude, the findings leading to improvement in EBPs described under the narrow-band scale of YSRTM for school adolescents.

Table : Summary of t-test ((Independent) Analysis for Experimental and Control group in Post-test Condition

EBPs	ExpG		ContG		MD	t	p
	M	SD	M	SD			
Anx	6.90	1.96	10.1	1.44	-3.2	4.139	.001
Dep	7.3	2.21	11.1	1.66	-3.8	4.340	.000
SC	8.3	1.70	10.00	1.94	-1.7	2.080	.052
Soc	8.3	2.11	10.2	1.93	-1.9	2.100	.050
Tho	7.90	2.63	10.6	2.79	-2.7	2.219	.040
Att	8.10	1.59	10.20	1.81	-2.1	2.750	.013
RB	6.50	2.36	10.90	.8756	-4.4	5.510	.000
Agg	7.40	1.71	10.30	1.33	-2.9	4.220	.001
Oth	7.20	1.47	9.90	.994	-2.7	4.798	.000

To compare Internalizing, Externalizing and other problems in the Experimental and the control group, an independent sample t-test was conducted. From Table 3, it can be concluded that after multi component intervention experiment group was found to be less prevalent to anxiety ($t(18) = -4.139$, $p < .01$), Depression ($t(18) = -4.340$, $p < .001$), Somatic Complaints ($t(18) = -2.100$, $p = .05$), Thoughts problem ($t(18) = -2.219$, $p < .01$), Attention problem ($t(18) = -2.750$, $p < .01$), Rule-Breaking Behaviour ($t(11.414) = -5.510$, $p < .001$), Aggression ($t(18) = -4.220$; $p < .01$), and to Other Problems ($t(18) = -4.798$, $p < .01$). The decrease score for experimental group after intervention leading to the conclusion that intervention has proved to be beneficial for the youths' EBPs. Hence, the finding failed to reject H2.

DISCUSSION

Certainly the present findings could be placed or fill the gap in the context of the broader literature on adolescent emotional and behavioural health and respective interventions. This study aimed to evaluate the effectiveness of a multi component intervention targeting EBPs among adolescents segregated into internalizing problems (anxiety, somatic, and withdrawal), externalizing problems (rule-breaking behaviour, aggressive behaviour), NINE (social, thoughts, and attention) and other problems (among adolescents. The pretest-posttest design allowed for a clear comparison of the participants' symptoms pretest and posttest intervention.

The results of this study, employing an experimental-control group design, demonstrate the efficacy of targeted intervention in significantly reducing internalizing problems (anxiety, withdrawal), externalizing problems (rule-breaking behaviour, aggressive behaviour), and other problems (social, thoughts, and attention) among adolescents. These are very significant results because the young people are the most affected group by mental health problems, and many people usually seek their support.

These findings are corroborated with existing literature that supports the efficacy of various interventions in reducing various EBPs among adolescents. For instance, Amanvermez, et al., (2022), using systematic literature search for randomized controlled trials (RCTs) of self- guided stress management interventions suggested that self-guided stress management programs may be an effective and useful element of a multi-component intervention system. Further child training on social skills plays an important role. All interventions that include social skills training have been found to improve social interactions and reduce social problems (Beelmann, and Lösel, 2021). The present article contains a comprehensive meta-analysis of randomized controlled trials (RCTs) on the effects of this type of intervention. In line with aforementioned context, Jakubovic, and Drabick, (2023) indicates the utility of Dialectical behavior therapy (DBT) which is recognized as an evidence-based intervention for externalizing problems as currently delivered among adolescents.

A recent study by Pollack, et al., (2024) addressed the significance of multicomponent intervention for school children with EBPs. According to finding behavior analysts (BAs) and mental health professionals collaboratively tailor effective intervention services for students with social/emotional and behavioral (SEB) difficulties. In a nutshell, the huge literature indicates that interventions aimed at emotional and behavioral problems can also enhance cognitive functions, such as attention and executive functioning, which are crucial for academic success and overall well-being (Diamond & Lee, 2011).

This study, though fully conscious of its limitations such as the small number of participants, is still a valuable finding. Subsequent investigations are encouraged to confirm these results through more extensive studies with randomized control groups to solidify the support for the intervention's efficacy. Additionally, analyzing the way the intervention, which carries a positive effect on a wider range of EBPs, helps to understand what precautions we should take to create more narrow and efficient treatments.

In conclusion, the results of this study add to the growing body of evidence supporting the efficacy of targeted interventions in reducing emotional and behavioural problems among adolescents. Through managing a collection of psychological symptoms, these programs offer the possibility of boosting well-being and the general range of health among adolescents.

Looking towards strengths of the findings, the study's design employed in this study strengthens the

validity of these findings, as the experimental-control group setup allows for a clearer attribution of observed changes to the intervention itself, rather than to external factors or developmental changes over time. On the other hand, a minimum sample size and insufficient follow-up research on the impacts this intervention will create could serve as big restrictions. Future research should also explore the specific components of the intervention that contributed most significantly to the observed outcomes, facilitating the refinement of targeted strategies for different types of psychological issues. The findings underscores the importance of comprehensive, evidence-based approaches to address the multifaceted nature of intervention promoting adolescent wellness.

Future Direction: As for the subsequent research stream, the researchers shall attempt diving deeper into the questions of how the intervention works and what the most effective components of it are; the longevity of its impact should be evaluated as well. Additionally, expanding the study to include diverse populations and settings would help in assessing the intervention's generalizability and adaptability to different contexts.

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