

Eclectic Psychological Interventions for Childhood Depression

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ABSTRACT

Childhood depression is generally presented with traits such as negative mood, anhedonia, social isolation, negative self-esteem and hopelessness. These symptoms may become progressive in nature and further result in interpersonal problems. This study outlines the effect of the three interventions, which are, (a) Cognitive behavioural Therapy- Dramatics combined (b) Dramatics only (c) Cognitive behavioural Therapy only, on Childhood Depression. 31 school going children between the age group of 7-12 years from Delhi-NCR participated in this research. Informed consent and assents were taken from the parents, children and authorities. These participants were divided in to three groups and underwent the intervention for 10 weeks or 16 weeks respectively. English and Hindi translated Children Depression Inventory (Kovacs, 1992) was used. Skilling Mack analysis revealed that that all the three intervention plans significantly alleviated childhood depression. Post hoc analysis was done by employing Wilcoxon Sign Rank test. It was found that interventions specifically reduced childhood depression score during progression of session 1 to session 16 and session 1- session 10 intervals. CBT- Dramatics combined intervention group was highest in alleviation as compared to other interventions. Dramatics based intervention was capable of lowering psychotherapy dropout rates in participants, when compared to either combined intervention or CBT alone.

1. INTRODUCTION

Childhood development entails physiological, emotional and psychological metamorphosis and influenced by biological processes, genetic factors and environmental interactions. Dawson et al. asserted that prenatal and postnatal is sensitive period that can contribute in shaping behavioural tendencies and minimizing the risk of negative outcomes in child's later developmental stages¹. Psychological developments during infancy, childhood are the building blocks of the adolescence and adult ages. Adverse childhood experiences (ACEs) such as abuse (physical, emotional, sexual), death of a loved one, natural disasters, violence, parental divorce/abandonment, chronic illness (in family/self), neglect, non-supportive environments, depressed/ mentally ill family member can cause pathological distress^{2,3}. Thus, irrespective of the source (environmental, physical, social or psychological) distress can negatively affect the adaptive functioning in children that may lead to clinical or subclinical mental disorders. Common mental disorders such as depression and anxiety are common in children with ACE exposure and continue to worsen during adolescence⁴.

Depression in children

Diagnostic and Statistical manual classifies depression with symptoms of consistent low mood, anhedonia (loss of pleasure), social isolation, emotional outbursts, frequent irritable behaviour, sleep disturbances (insomnia or hypersomnia) and eating problems for two weeks. Depression has bio-psycho-social basis with varying presentation of symptoms across developmental ages as 'Masked' depression generally seen in younger children⁵. The following figure shows the similarities as well as differences in childhood and adolescence depression.

Childhood Depression

Consistent negative mood
Loss of interest
Sleep disturbances

Adolescence Depression

Common-symptoms

Figure 1: Common and varied symptoms of childhood and adolescence depression

Greater depressed appearance
Separation anxiety

Depression causes cognitive debilitation that may result in distorted perception of situations, faulty processing of information

Hopelessness

Weight change

Suicidal ideation

Anhedonia

and interpretation or memory dysfunctions, increasing negative biasness, emotional outbursts⁶. A strong association was found between behavioural dysfunction such as hopelessness and depressive symptoms in patients of sclerosis⁷.

Risk and Protective factors in childhood and adolescence depression

Family history of depression, female sex, childhood abuse or neglect, adverse experiences, stressful life events, chronic illness, early puberty, polymorphism, bodily dissatisfaction, LGBTQ identification, being overweight, academic difficulties, academic stress, low socioeconomic status, poor family functioning were found to be the risk factors for childhood depression^{8,9,10}. A longitudinal study based on 11559 participants in the age group from 12-25 years investigated the pathways of depression from adolescence to early adulthood. Several shielding factors such as two-parent family structure; feeling connected to parents, peers, or school; and self-esteem were predicted¹⁰. Positive individual characteristics, family factors, peer relationships, school-related aspects, neighborhood characteristics, and intrinsic religiosity, social and emotional support were also identified as protective factors^{11,12}.

Treatment and Intervention

Emotional Outbursts
Irritable behaviour

Somatic complaints

Lack of facial expressiveness

Enuresis

Depression is a treatable however early recognition of symptoms can lead to efficient alleviation. The treatment of depression includes psychological/psycho-social therapies or pharmacological interventions. Psychological therapy or psychotherapy, is an interaction (therapist-patient) based treatment that revolves around the application of psychological techniques in dealing with mental illnesses arising from emotional stress, ill adaptive functioning and behavioural problems. There is emergence of psychological interventions based either on cognitive, behavioural, psychodynamic, humanistic or eclectic approach for alleviating and managing symptoms of childhood depression. However, Cognitive behavioural therapy (CBT) is one of the widely used psychotherapy in treating depression and anxiety disorders. CBT has cognitive and behaviour modification methods. Socratic questioning (low intensity) (guided discovery and changing minds), identification of distorted beliefs, thought records (positive and negative thought recoding), stress inoculation, cognitive rehearsal training, examining evidence, modelling, cognitive restructuring, problem solving skills, are some common psychotherapeutic techniques.

Techniques and Application-CBT

These strategies, such as, *low intensity* socratic questioning uses open ended questions to explore and challenge the thoughts. This technique is implied for broadening attention scope and highlighting negative automatic thought processing, however, this must be used with discretion and vigilance, when children are involved¹³. Problem solving skills involve learning to identify the problem and relating it to available sources to find suitable solution and finally implementing them¹⁴. Relaxation training is used widely that enhances 'cognitive preparedness' in children and adolescents. In a study, 30 adolescents diagnosed with moderate depression were intervened through group-based CBT with relaxation training for 5 weeks. At the end of 5 weeks of intervention, symptoms at post-test levels of depression had been completely reversed to 'no depression' state as compared to wait list participants¹⁵. Children adapt to fast learning of relaxation techniques as compared to adults though frequent instructions are to be implemented during sessions¹⁶.

Cognitive restructuring works in reframing of thoughts or beliefs either by replacing them or challenging them through

scrutinizing evidence/factual details. Negative thought processing is generally alleviated through this technique. In depression, these irrational beliefs, called cognitive distortions are significantly present. This process implies Socratic questioning, thought recording, rationalising thoughts with awareness that results in summarising the thoughts and beliefs with restructured cognitions.

Behavioural domain may include assigning of home work, relaxation training, positive reinforcement, coping and managing skills learning and social skills learning, routine schedule writing of emotions, that arise during an event such as anger outbursts.

CBT has been useful in a wide range of mental illnesses. School-based CBT group therapy sessions were provided to trauma exposed refugee children and adolescents (11-15 years). Alleviated Post Traumatic stress syndrome (PTSD) symptoms with improved emotional functionality were reported at post intervention stage¹⁷. A study propounded that in moderate depression in participants was effectively alleviated in terms of depression level, negative automatic thoughts, and dysfunctional attitudes of participants by Psychodrama integrated CBT as well as CBT alone. There was no difference in treatment effectiveness of both the interventions¹⁸. The techniques in CBT have been amalgamated with art therapy and play therapy. These contemporary therapies have been evident in providing relief in psychological disorders in children.

Techniques and Application- Dramatics

Improvisation derives focus on the current state, involving spontaneous response, active listening and awareness during any imagined situation, such as conflict resolution in peers.

The feasible solutions are orally stated to the participant by the facilitator, and this is followed by finding solution from available resources.

Fake and duchenne smile technique is positive affect induction activity that initially results in partial and ultimately becomes a complete duchenne smile 19. Named after a French neurologist and physiologist Duchhene de Boulogne²⁰, a duchenne smile is the one that involves the contraction of voluntary and involuntary muscular movements of facial muscles zygomaticus major (lip corner pulling muscles) and orbicularis oculi (eye orbiting muscle). On the contrary, a fake smile expression includes only the movement of zygomaticus major with the absence of involuntary movement of orbiclaris oculi. Voluntary as well as involuntary facial muscular movements produces significant levels of subjective experiences in participants, whether they were instructed stepwise to exhibit the muscular movement or not. This exemplifies that displaying either a fake or a duchenne smile accompanied by a voluntary and involuntary muscle movement may result in positive subjective experiences²¹. Positive affect is reduced in depression so techniques which are meant to induce positive affect will have promising effect on depressed patients.²²

Story formation (on positive affect causing words) and storytelling intends to selectively collect positive (and awareness about) negative affect words from participants based on their experiences, followed by a story formation and finally narrating the same. During therapeutic conversations, crucial clues can be extracted from the narratives through active listening and emphasis can be put on positive affect causing scenarios along with the awareness of negative ones. The repeated practice of positive affect story formation can amplify positive subjective experiences in participants.

Lastly, subjects participated in body movements such as slow running actions, monkey jumps, squirrel catching food, static jump and claps, enactment of play/pleasurable activities. This involved complete or partial bodily movement, for example, when a participant was instructed to enact a squirrel jump, he/she folded arms from the elbow, directing hands outward, followed by a long jump. At another instance, static jumps and claps were included where participant jumped at a fixed place accompanied with or without claps. These movements are 'kinesthetic' in nature, combined and coordinated act of nervous, muscular and skeletal systems. The body movements are exhibited with facial expressions such as in case of monkey jumps, participant may squeeze his nose and eye orbiting muscles accompanied by jumps. It is important to state that during all these acts, eye contact with the therapist was consistently exhibited. During these acts, participant works in becoming mindful, more aware of the surroundings and expressive.

This current study focuses the effect of psychotherapeutic interventions such as CBT and/or dramatics techniques on childhood depression symptoms. This article is a brief summary of my PhD thesis titled 'Dramatics and Cognitive Behavioural Therapy in alleviation of Childhood Depression'.

2. METHOD

Sample

31 subjects in the age group of 9-12 years from schools and child guidance clinic of a psychiatric hospital (outpatient setting) participated in the study. Informed consent and assent from parents, authorities and participants was obtained. The Mean age of the total sample was 10.28 years (SD=1.28). However, Mean age of females (n=09) and males (n=21) was 11.11 (SD=1.17) and 9.72 years (SD=1.12) respectively.

Tools

Children's depression inventory (CDI) (paper-pencil format) was used in assessing depression in children and adolescents (7-17 years)²³. Five subscales are negative mood, ineffectiveness, negative self-esteem, problems, anhedonia. This tool is self-reported that measures the presence of depressive symptoms in children and adolescents. It is administered by participants themselves; however, assistance may be provided by a facilitator or psychologist. This tool has test-retest reliability of .82 at two weeks interval and 0.67 at four-week interval. This tool has discriminative validity with sensitivity of .80 and specificity for .84. The construct validity (test's relation with underlying theories and concepts) was 0.84.

Scoring of the tool

There are 27 items in CDI. Each item has 03 options that are related to corresponding scores such as 2 for severe; 01 for mild and 0 for absence of symptom. A higher score is related to increased severity of depression. The score ranges from 0 (absence of depressive symptoms) to 54 (maximum score). The time taken is approximately 15 minutes or less.

Procedure

Purposive and snow ball sampling was done. A psycho-education based workshop was conducted for class teachers/ subject teachers on 'Mental Illnesses in Children and Adolescents' and referral of students displaying behavioural change since few weeks. Following this, parent and teacher interviews were done for qualitative analysis. After obtaining parental consent and student's assent, CDI scale was self-reported by participants. In the child guidance clinic also, the participant inclusion was done by referral on the basis of behavioural problems reported by the informant. Shortlisted participants had CDI scores (baseline scores) ranging from 10 to 22 (mild to moderate depression range). Participants underwent psychological intervention sessions for 10 -16 weeks, one session per week. The flowchart of intervention session plans are in table 2.

The duration of each session was 30-45 min approximately. These participants were given intervention sessions at their respective institutions. Following was the inclusion and exclusion criteria of the study:

Inclusion criteria:

- (a) Age 7-12 years
- (b) Informed consent and assent
- (c) Positive score on Children depression inventory (CDI)
- (d) No -prevailing medical illness
- (e) Participants with at least two time point assessment scores on Children depression inventory.

Exclusion criteria:

- (a) Depression diagnosis co-morbid with Grade 2 and Grade 5 axes in Diagnostic and statistics manual (IV TR) leading to impaired cognitive functioning
- (b) Non-school going
- (c) Age >12 years or Age<7 years
- (d) Participants who discontinued in less than 10 sessions of intervention were not considered for the study.

Table 2 - Techniques used in the intervention plans

CBT Techniques	Dramatics Techniques	CBT-Dramatics combined
Cognitive preparedness training	Improvisation	CBT – Dramatics techniques
Socratic questioning (Low intensity)	Fake and <i>duchenne</i> smile strategy ¹⁹	combined
Cognitive restructuring	Story formation (on positive affect	
Problem solving skills	causing words)	
Behavioural activation	Storytelling	
Behavioural experiments	Body movements such as slow running actions, monkey jumps,	
Communication training	squirrel catching food, static jump and claps, enactment of	
	play/pleasurable activities	

Statistical Analysis

Non parametric tests were used as the sample size for each group was small. Skillings Mack test, which is a Friedmann type test, was used to analyse the data with repeated set of measures to track the treatment over different time points but with missing values due to drop out of participants over the time²⁴. The analysis of the data was based on following tests implied for 'within' and 'between' groups comparison: (a) Skillings mack (Friedmann type test with unbalanced block design) for within group analysis followed by Wilcoxon sign rank test which is applied for post hoc analysis. (b) Kruskal Wallis H test for comparison of difference of scores among three groups followed by Mann Whitney test, for post hoc analysis.

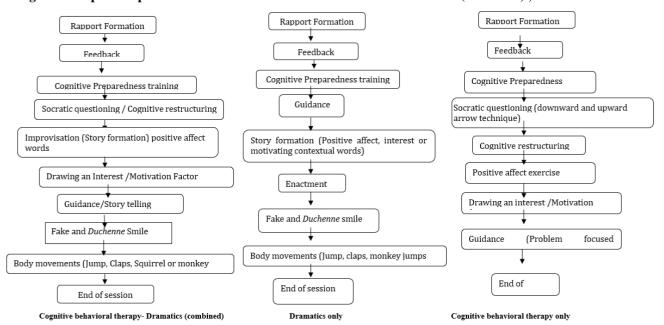


Figure 2: Stepwise representation of intervention sessions in CBT- Dramatics (combined), Dramatics and CBT

3. RESULTS

Table 3 displays gender, age and pre, intermittent and post CDI scores of participants.

Post CDI Score Subject ID Gender Pre CDI Score Intermittent CDI Age (session 16) (session 1) Scores (session 10) **CBT-Dramatics** S 2 12 20 8 S_6 F 9 25 2 6 S_7 10 17 12 NA M S 16 9 7 M 15 0 F S 18 12 24 18 NA S_19 0 M 10 18 NA S 22 2 10 33 2 M F 22 4 S_23 10 8 S 24 M 10 31 21 12

Table 3 - Pre-post CDI scores of subjects

S_29	M	10	15	12	NA		
S_25	M	12	32	8	9		
Dramatics only	Dramatics only						
S_1	M	11	14	2	3		
S_4	M	9	15	7	10		
S_11	M	10	8	5	3		
S_12	M	9	10	4	10		
S_13	M	9	22	11	11		
S_20	M	9	9	4	2		
S_26	M	10	15	13	13		
S_28	M	9	11	2	0		
S_34	M	12	21	14	10		
S_38	F	12	10	4	NA		
CBT only							
S_5	M	11	7	6	5		
S_14	F	10	36	24	28		
S_32	M	9	19	2	0		
S_15	M	9	14	6	6		
S_21	F	12	27	3	1		
S_30	M	7	21	8	8		
S_31	M	9	20	8	2		
S_3	M	10	14	8	NA		
S_35	F	12	20	10	NA		
S_33	F	11	7	2	NA		

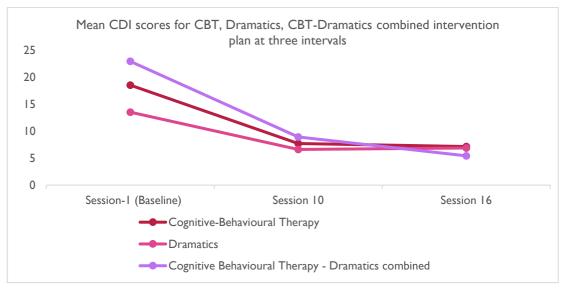
Table 4: Mean CDI scores and Standard Deviations and Skilling Mack Statistic for CBT, Dramatics, CBT-Dramatics combined intervention plan at different time points

	CBT only		Dramatics only		CBT - Dramatics combined intervention	
Time points	M(SD)	N	M(SD)	N	M(SD)	N
Session-1 (Baseline)	18.5(8.78)	10	13.5(4.88)	10	22.90(6.70)	11
Session 10	7.70(6.36)	10	6.60(4.47)	10	8.90(6.54)	11
Session 16	7.14(9.63)	7	6.88(4.80)	9	5.42(4.07)	7
Skilling Mack Statistic (Q statistic)	13.99, p<0.0	1	13.01, p<0.01		14.5, p<0.01	

Note- M=Mean; SD= Standard Deviation; N= Number of participants; CDI= Childhood Depression Inventory

The above table demonstrates the Mean, Standard Deviation of CDI scores and Skilling Mack Statistic (Q) in intervention groups at three time points - session 1, session 10 and session 16.

Figure 3: Line Graph representing Mean Scores of Childhood depression the Session 1, Session 10, Session 16 for CBT, Dramatics, CBT-Dramatics combined intervention.



Kruskal Wallis test was applied in this study to compare the difference of Pre-Post scores (Pre score is Session 1 score and Post score is Session 10 or Session 16 score) of childhood depression among groups.

Table 5: Kruskal Wallis Test corresponding to CBT-Dramatics combined, Dramatics and CBT from Session 1-Session 16 and Session 1-Session 10

Group	N	Sum (Ranks)	Mean of Sum of Ranks (Ranks calculated on difference of session 1 and session 16 CDI scores)	χ2, Significance level
Session 1 to Session 16				
CBT-Dramatics combined	7	127.5	18.21	11.37, p=0.0034
Dramatics	9	60.5	6.72	
CBT	7	88	12.57	
Session 1 to Session 10				
CBT-Dramatics combined	11	212.41	19.31	4.271, p=0.11
Dramatics	10	170.5	17.05	
CBT	10	113	11.3	

Mann Whitney test is applied for the post hoc analysis of the significance between groups.

Table 6: Mann Whitney U Test for post hoc analysis (between groups- CBT- Dramatics (combined); Dramatics and CBT) for Session 1- session 16

Group	N	Mean Rank	Sum of rank	Mann Whitney statistic
CBT- Dramatics combined	7	13	91	0, p<0.01
Dramatics	9	5	45	
CBT	7	10.79	75.5	15.5, p=0.10
Dramatics	9	6.72	60.5	
CBT-Dramatics combined	7	9.21	64.5	12.5, p-0.14
СВТ	7	5.79	40.5	

Intervention Dropout rate

Table 7: Intervention dropout rates of participants at different time intervals

	Before 10 th Session	After 10 th session
Interventions	Dropout %	Dropout %
Cognitive behavioral therapy- Dramatics combined	9%	42%
Dramatics	10%	19%
Cognitive Behavioural Therapy	24%	47%

4. DISCUSSION

The study included 31 participants, aged 7-12 years, segregated among three intervention groups namely CBT, dramatics and CBT- dramatics. Children's depression inventory (*Kovacs 1992*) was used for assessing childhood depression at three stages such as, session 1, session 10 and session 16 respectively.

Depression in children and psychological interventions

Symptoms were reduced in all three groups, with the CBT-Dramatics combined group showing the most improvement. Thus, CBT-dramatics combined group had highest alleviation of depression as compared to other two interventions. However, CBT and dramatics were also found to have significant lowering of depression scores. The participants who completed at least 10 sessions (total number of sessions n=16) in all three interventions had significantly alleviated depression scores. The CBT-dramatics combined intervention included cognitive behavioral and dramatics techniques, such as, cognitive preparedness training (relaxation training), Socratic questioning, problem-solving focused strategies and positive affect practice. Additionally, dramatics techniques involved improvisation, positive affect through enactment of pleasurable activities, fake and duchenne smile strategy¹⁹, body movements such as jumps and claps. Similar results were found in a study conducted by Karnezi 25 that applied Cognitive behavioural techniques and drama art intervention in lowering the symptoms of fear and engaging the participants. The effective reduction of symptoms could be due to eclectic or mixed approach of cognitive-behavioral, psychodynamic and humanistic basis of the combined intervention. The activities combined and designed as a set of 16 sessions for the CBT-Dramatics intervention. The objective of executing a mixed intervention lies in the appraisal of cognitive – behavioural domain and enhancing positive affect exercises which is impaired in childhood depression. In addition, this also works on reconstructing conscious and unconscious thoughts that are readdressed during the story formation or improvisation processes. Thus, a reformed experience helps participants' in rewiring their thoughts and feelings affecting the behavioral output. Cognitive behavioural therapy included homework assignments whereas negligible homework was given in dramatics. As evident in literature, CBT has been found to have large effect size for childhood depressive and anxiety disorders^{26,27}.

Eclectic Approach in psychological interventions

The eclectic approach is a mixed-intervention that includes the two or more psychological approaches. Suh as, cognitive-behavioral, psychodynamic and humanistic approaches in the current study. The activities were combined and designed as a

set of 16 sessions. The objective of executing a mixed intervention lies in the appraisal of cognitive – behavioural domain, which is impaired during childhood depression. In addition, this also works on reconstructing conscious and unconscious thoughts that are readdressed during the story formation or improvisation processes. Thus, a reformed experience helps participants in novel recombining of thoughts and feelings, affecting their behavior. Cognitive behavioural therapy included homework assignments whereas negligible homework was given in dramatics.

Positive affect Induction

Inclusion of positive affect induction played a crucial role. The subjective experiences of positive emotions, such as joy and pleasure, were conceived through techniques of 'improvising', 'enacting', 'drawing' or 'talking' about pleasurable activities that deteriorated with the progression of depressive symptoms. In dramatics intervention the positive affect was induced through improvisation (enactment) of pleasure causing activities and Fake – duchenne smile strategy¹⁹. The improvisation was further carried over to form a story and spontaneous oral narration of the same. It is to be noted that, immediacy during improvisational techniques is indeed important. These techniques in eclectic interventions, were intentionally meant for inducing positive affect, experiencing them and reflecting the same through emotional expression such as a duchenne smile, initiating the participant's involvement in pleasure causing activities. The foundation of the positive affect induction underlies the significantly reduced positive emotions in childhood depression. Forbes and Dahl²⁸ asserted that depression results in amplification of negative affect accompanied by deteriorating positive affect such as motivation and pleasure. As described earlier that basic emotions are innate (inborn) and automatically appraised unlike complex emotions. Happiness, which is a basic emotion, may be exhibited through a felt- real smile (duchenne smile). The repetition of this basic emotion through the above-mentioned techniques in all the intervention was effective in, Firstly, subjective experiences in felt positive emotions; Secondly, commencing the pleasure and interest causing acts by participants; Thirdly, enhancing motivational aspects in the school premises (such as attentive involvement in academic pursuits in school). And lastly, these strategies catalyzed the attainment of short term and long term psychotherapeutic goals.

Maintaining Pace of speech and timing with participants

A very crucial and important aspect in psychotherapy with children is the maintenance of pace of communication between facilitator/psychologist and the participant. The comprehensive aspect such as cues about behavioral / emotional issues and intervention reception of participants during therapy sessions may differ on the basis of their ages. As it was noted in this study that 7–8-year-old participants were not clearly able to express their impairments, however they were able to clearly distinguish the Childhood depression inventory items, during assessment. Maintenance of pace is important during sessions or in planning the short-term objectives with participant.

Qualitative analysis- Parents, teachers, and participants

Subjective experiences were reported by the stakeholders- Parents, teachers, and participants. The behavioural aspects were discussed during pre and post intervention time points. There was difference in the extent of behaviour modification observed in the participants were: improved constructive behaviour exhibited at school, home and other significant places; Emotional outbursts such as frequent crying, anger outbursts decreased at post intervention level; participants employed conflict resolution and problem- solving approach; improved academic performance during and at post intervention stage; improved interpersonal relationships promoting social connectedness; initiation and continuation of pleasure causing acts / interested activities; emotional expression was observed.

Intervention Dropout rate

Psychotherapy intervention dropout rate is defined as the percentage of participants who dropped out, either by withdrawing or any other reason, before the completion of any psychotherapeutic intervention. A study published by Cooper and Coklin²⁹ found that dropout rates in psychotherapy treatment for depression are often because of co morbid personality disorders in patients and racial factors resulting in cultural differences. Deakin and Nunes³⁰ listed additional factors, such as, perception of the participant towards the intervention, facilitator-participant collaboration during sessions and continuation of dysfunctional family traits, that may lead to approximately 60% dropout in pediatric psychotherapeutic interventions (psychoanalytic interventions). As displayed in the table (Table no.7) the highest dropout was observed in only CBT group, with 24 % drop rate before the completion of 10 psychotherapy sessions. The lowest dropout was seen in CBT- Dramatics combined intervention and only Dramatics with 9% and 10% dropout rate before the completion of 10th session. The causes of early dropout in this study were travelling distance to the institution; parental motivating factors as participants were completely dependent on their parents for reaching the venue; perspective about mental health; dysfunctional family; school vacations or examinations; Initiation of participants' involvement in pleasure causing acts such as participation in dance or music practices, which was earlier inhibited by them; lack of motivation; participant's perception of ineffective intervention.

5. LIMITATIONS

Randomisation of participants could have been done to avoid any bias. The study can be conducted on a larger sample with an inclusion of a control group.

6. FUTURE RECOMMENDATIONS

Eclectic approach towards psychotherapeutic intervention may prove more effective with children. Inclusion of activities that enhance collaborative empiricism between therapist-participant can lead to low psychotherapy dropout.

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