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Original Article

Mindfulness-based Cognitive Behaviour Therapy with Emotionally disturbed Adolescents affected by HIV/AIDS

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ABSTRACT
Mindfulness-based approaches have been shown to be useful in a variety of physical and mental health conditions including chronic pain, cancer, psoriasis, eating disorders, anxiety and depression. Mindfulness based CBT finds its origins in Eastern Buddhist meditation which began many centuries ago. Recent studies on CBT with mindfulness have shown psychological effectiveness across a wide range of clinical problems. These include anxiety, depression, stress management, OCD, social anxiety and personality disorders. Clinical reports suggest that mindfulness based therapies can be useful in treating anxiety and depressive symptoms in school-age children. Although there are limited clinical trials of mindfulness based treatment approaches with children, these approaches have been effective in reducing anxiety and depressive symptoms in adults.

The purpose of this study was to evaluate the usefulness of Mindfulness-based Cognitive Behaviour Therapy (MCBT) for the treatment of emotional problems (internalizing problems, depression, anxiety, hopelessness, and perceived stress) in a sample of adolescents affected by HIV/AIDS. Twelve children ages 13 to 16 years, living with HIV positive parents participated in the 12-week intervention. Assessments were conducted at baseline and post-treatment with the help of self-report and teacher-report measures. Analysis found preliminary support for MCBT as useful in reducing symptoms of emotional disturbances on self and teacher reports to the levels of clinical significance and reliable change. The high attendance rate, high retention rate, adequate compliance, and positive feedback supported treatment feasibility and acceptability.

Findings of this study offer MCBT as a potential treatment for emotional disturbances in HIV/AIDS affected adolescents with adequate feasibility and acceptability. However, further research is needed to test the efficacy of the intervention with a larger sample of such adolescents and also with those who meet diagnostic criteria for clinical disorders.

Key words:
Mindfulness-based cognitive behaviour therapy, emotionally disturbed, adolescents, HIV/AIDS

INTRODUCTION

HIV/AIDS is known to cause a range of difficulties including emotional and behavioural disturbances among affected people. Although HIV/AIDS is most prevalent among adults of reproductive age, the illness has important implications for younger family members dependent on these adults for parental support [1]. In 2005, more than 15 million children under the age of 18 had lost one or both parents to AIDS worldwide [2]. Adolescent children living with HIV positive parents have been reported to have emotional disturbances including anxiety, depression, fear, and low self-esteem [3,4]. It has been reported that a low level of parental HIV disclosure to children can lead to an elevated level of anxiety and worry in them [5]. It is highly likely that children of HIV positive parents experience high degree of distressing life events which results in emotional and behavioural problems. The health status of HIV/AIDS-affected children, especially the psychosocial problems they encounter, need to be identified [6] and timely managed.

Therapeutic work with adolescents is often seen as more challenging, difficult, and less fulfilling than work with adults or younger children. For example, Trepper described working with adolescents as an "adversarial sport" in which the therapist rarely ends up on the winning team [7]. Trepper goes on to say, "Actually, adversarial sport may be too soft a metaphor. Most therapists view working with adolescents and their families as blood sport". In part, this adversarial view of working with adolescents may be due to the cultural view of adolescence as a tumultuous time of raging hormones and rejection of adult values. Therapists, as well as parents, teachers, and other adults, may anticipate that interactions will be conflictual and frustrating and thus approach adolescents with such expectations. It is not surprising, then, that therapists often find themselves at odds with adolescents with whom they are working. Parry reports that narrative approaches to therapy help clients sort through their experiences and develop their own definitions of the meaning of experiences and events in their lives [8]. This process provides validation to clients as well as a sense of being in control of their own lives. This may be especially important for adolescents, many of whom have one or more adults trying to impose definitions of the world on them.

CBT (Cognitive Behavioural Therapy) is “a system of psychotherapy that attempts to reduce excessive emotional reactions and self-defeating behaviour by modifying the faulty or erroneous thinking and maladaptive beliefs that underlie these reactions” [9] and has been found effective in the treatment of emotional disturbances including anxiety and depression in adolescents. Mindfulness-based Cognitive Behavioural Therapy (MCBT), integrates the practice of Mindfulness with the principles of CBT and is based on the idea that in order to recognize and modify unhelpful thoughts, we have to understand and have some control over the processes in our Mind, which produce them; “we cannot change a problem with the means that created it”. While Mindfulness is rooted in many spiritual disciplines, notably Buddhism, the Mindfulness Practice can be effectively learned and applied in its own right without involvement in any religion. Mindfulness Practice proposes that we can take control over how our own Mind works by actually practicing looking at our thoughts with growing interest and acceptance; understanding how our Mind works, how thoughts are created from each other, the predominance of certain thought trends or foci. Mindfulness-based approaches have been shown to be useful in a variety of physical and mental health conditions including chronic pain, cancer, psoriasis, eating disorders, anxiety and depression [10].

Clinical reports suggest that mindfulness based therapies can be useful in treating anxiety and depressive symptoms in school-age children [11]. Although there are limited clinical trials of mindfulness based treatment approaches with children, these approaches have been effective in reducing anxiety and depressive symptoms in adults [12,13]. Developed for the treatment of recurrent depressive symptoms, MCBT has potential to be extended for the treatment of other form of emotional problems in patients of different age groups including adolescents. Research

must be carried out to produce evidence on efficacy of MCBT in treating emotional problems of adolescents along with other age groups [14]. The present study has been carried out to establish efficacy of MCBT in treating emotional disturbances of adolescents living with HIV positive parents.

AIMS AND OBJECTIVES

This study was planned to see the efficacy of Mindfulness-based Cognitive Behaviour Therapy in the management of emotional problems of adolescents affected by HIV/AIDS. The objective kept in order to demonstrate the efficacy of MCBT with such emotionally disturbed adolescents was to study short-term effects of MBCT with emotionally disturbed adolescents affected by HIV/AIDS with specific reference to;

1. Internalizing problems as measured by Youth Self Report
2. Depression as measured by Children's Depression Inventory
3. Anxiety as measured by Revised Children's Manifest Anxiety Scale
4. Hopelessness as measured by Hopelessness Scale for Children
5. Social & interpersonal competence as measured by Interpersonal Competence Scale
6. Perceived academic stress as measured by Scale for Assessing Academic Stress

MATERIALS AND METHODS

Participants:

Participants were 12 adolescent children (7 Male and 5 Female) of HIV positive parents in the age group of 13 – 15 years who were identified as having psychological disturbances with the help of parents and teachers verbal report, youth self report, and children's depression inventory. Contact with these children of HIV positive parents was made through a Delhi based NGO working for the welfare of HIV/AIDS affected individuals and their families including children of HIV/AIDS affected individuals. All these 12 children were HIV negative and studying in schools. Parental HIV positive status was known to all and they were living with their parents.

Assessment tools:

1. Youth Self Report (YSR)

Developed by Achenbach & Edelbrock [15], YSR is a 119 item instrument designed to record behavioural problems and competencies of children and adolescents aged between 11 and 18 years as reported by themselves in a standardized format. the behavioural problem items are scored on a 3-step response scale ranging from 0 to 2 where 0 is for 'not true', 1 is for 'somewhat or sometimes true', and 2 is for 'always or often true'. These items elicit two major kinds of behavioural problems namely, ***internalizing*** and ***externalizing*** problems. Further internalizing problems has five and externalizing problems has four almost independent components/scales. The raw scores of each individual scale are converted into 'T' scores for interpretation. Separate 'T' scores for total internalizing and total externalizing problems are also obtained. The YSR has been explained to have test-retest reliability 0.89 and construct validity of 0.92 and has been used for various clinical and research purposes all over the world.

2. Children's Depression Inventory (CDI)

CDI [16] is a widely used instrument to assess depression in children and adolescents in the age group of 7 to 17 years. It is a 27-item self-rated symptom-oriented scale. CDI assesses depressive symptoms grouped under five factor scales including negative mood, interpersonal problems, ineffectiveness, anhedonia, and negative self-esteem. CDI has been explained to have 0.87

internal consistency reliability and 0.82 test-retest reliability and high validity. CDI is being used for clinical and research purposes at many places in our country.

3. Revised Children's Manifest Anxiety Scale (RCMAS)
The Revised Children's Manifest Anxiety Scale (RCMAS) [17] is a self-report instrument designed to measure the level and nature of anxiety for children and adolescents aged 6-19 years. For children over 9 and half years of age, it can be administered in a group situation. For first and second graders the examiner should read the items to the child. There are 37 items each of which requires a yes or no answer. The RCMAS was developed to address criticisms of the original Children's Manifest Anxiety Scale (CMAS). The scale takes 10-15 minutes to complete; the raw score is converted into T score for interpretation. Reliability and validity co-efficient of RCMAS are reported to be 0.87 and 0.85 respectively.

4. Hopelessness Scale for Children (HSC)
The HSC [18,19] is a 17-item true/false scale; scores may range from 0 to 17. Adequate internal consistency (Alpha = .97) as well as test-retest reliability (r = .52) following a 6-week interval has been reported with children [19]. Construct validity has been assessed by examining the relationship of the scale to measures of depression, self-esteem, and social behavior. HSC correlates positively (r = .58) with depression, and negatively with measures of self-esteem (r = -.61) and social skills (r = -.39) [19]. HSC has been used widely for research purposes and also in clinical settings across the world. There is evidence that the scale has been used in Indian studies [20].

5. Interpersonal Competence Scale (ICS-T)
The Interpersonal Competence Scale (ICS-T) [21] is a brief method for assessing social and behavioural characteristics of the children from grade 4 to grade 12 as reported by their teachers. It is 18 item rating scale for teachers in which items are presented as a unidimensional, 7-point bipolar scale. Items are grouped into 6 subscales namely aggressiveness, academic achievement, popularity, social affiliation, olympian qualities, and internalizing qualities. Inter-rater reliability of the scale ranges from 0.80 to 0.88 and developmental validity of the ICS-T includes significant prediction of later school dropout and teenage psychological problems. The ICS-T has been used in many researches including Indian studies [22,23].

6. Scale for Assessing Academic Stress (SAAS)
Scale for Assessing Academic Stress (SAAS) [24] is a 30 item instrument to measure academic stress in school going children from grade V to grade X. items of SAAS are simple worded and presented with 'yes & no' answer format, takes ten minutes for children to self report their stress symptoms related with academics. Scoring of the responses is done by assigning 1 score for 'yes' and 0 for 'no' response, sum of the scores of all the 30 items is the total score. Scores of the individual subjects are compared with the norms available for all the grade levels. SAAS has good psychometric properties and has been used in many studies in India [25,26].

Procedure:
Baseline assessment:
All 12 subjects were assessed individually by clinical psychologists having adequate skills for carrying out psychological assessment and adequate knowledge of administration, scoring, and interpretation of all the six instruments used in the study. Except ICS-T which was responded by the teacher/care taker, all instruments were administered on the subjects directly. Assessment of each subject was completed in two sessions and the clinical psychologists who completed the assessment were unaware of the objectives of the study.

Therapy:
As per the protocol and provision of the organization from where the subjects were taken for the study (NSM), the subject were kept in two groups according to the gender and 12 sessions of MCBT held in group setting once in a week basis, each session lasting for 85 minutes. Each of the therapy sessions had two components: mindfulness practice and cognitive behavioural intervention. First 20 minutes was for mindfulness practice and remaining time was used for cognitive behavioural intervention with 5 minutes of break between the two components. Therapists included two mindfulness trainers (JS & DS) and a clinical psychologist (US) with adequate experience of practicing psychotherapy including cognitive behaviour therapy with adolescents. Female mindfulness trainer (DS) worked with the group of female subjects and the male trainer with the group of male subjects; whereas cognitive behaviour therapist was common for both the groups. Mindfulness practice included discourse on power of mind and benefit of the realization and use of power of mind in positive direction, practice of meditation guided by the trainer, and mindfulness exercises for self-awareness and self-control under the supervision of the trainer with home based practice. Cognitive behavioural intervention essentially followed the Beck's model and included relevant components of it. Therapy details given bellow explains session-wise therapeutic activities and techniques used under both the components of MCBT.

Post therapy assessment:
Post therapy assessment was done after the termination of therapy session in the same manner as it was done during baseline assessment. The clinical psychologists who completed post therapy assessment were not aware of the result of baseline assessment as well as the therapeutic intervention given to the subjects. All the six outcome measures were administered individually in two sessions with the subjects and one session with the teacher/care taker.

Therapy details

Session #	Mindfulness Practice	Cognitive Behavioural Intervention
1	Discourse	Cognitive behaviour counseling
2	Discourse and Guided Meditation	Self-monitoring & activity scheduling
3	Guided Meditation	Self monitoring & pleasure-mastery rating
4	Guided Meditation	Self monitoring & pleasure-mastery rating
5	Guided Meditation	Review and CB counseling
6	Self-awareness & Control Exercise	Cognitive restructuring
7	Self-awareness & Control Exercise	Cognitive restructuring; homework assign
8	Self-awareness & Control Exercise	Cognitive restructuring, homework assign
9	Self-awareness & Control Exercise	Cognitive restructuring, homework assign
10	Self-awareness & Control Exercise	Review and CB counseling
11	Guided Meditation & Control Exercise	Review, CB counseling, preparing termination
12	Discourse and Termination	Review and termination

Analysis of the data:

The obtained scores on all the outcome measures were subjected to appropriate statistical analysis and analyses for clinical significance and reliability of change using Jacobson and Truax's methods [27] of calculating indexes for clinical significance and reliable change (RC). In this system, clinical significance is conceptualized as 'the level of functioning subsequent to therapy places the client closer to the mean of the functional population than it does to the mean of the dysfunctional population' on the outcome measures. And a criterion for clinically significant improvement/change was defined for all six outcome measures as the midpoint

between the distributions of functional and dysfunctional individuals; the midpoints were computed using method given by Jacobson and Truax. The criterion for reliable change index was defined on the basis of the estimated standard error of the difference scores on outcome measures. As suggested by Jacobson and Truax, RC greater than 1.96 was considered an index of reliable change/improvement [27].

RESULTS

Internalizing or Emotional Problems

The subjects reported significant amount of emotional disturbances on YSR as evident from their mean T scores on internalizing syndrome scales as well as DSM oriented scales (Table 1) at pre-treatment stage.

Table: 1
Pre and post therapy scores for emotional problems (YSR Scores)

YSR Syndrome Scales	Pre-therapy T Scores	Post-therapy T Scores	Clinical Significance (%)	Reliability (%)
Anxious / Depressed	63.56	51.26*	75.00	83.33
Withdrawn / Depressed	64.82	46.80*	91.66	91.66
Somatic Complaints	64.33	55.64*	91.66	91.66
Social Problems	62.46	48.76*	66.66	91.66
Thought Problems	46.55	46.24	-	-
Attention Problems	58.94	44.38	75.00	91.66
Rule Breaking Behaviour	43.53	42.87	-	-
Aggressive Behaviour	45.66	45.55	-	-
Internalizing Total	64.22	48.61*	91.66	91.66
Externalizing Total	45.04	44.97	-	-
YSR DSM-Oriented Scales				
Affective Problems	63.56	52.18*	91.66	91.66
Anxiety Problems	64.82	52.85*	75.00	83.33
Somatic Problems	64.33	55.64*	91.66	91.66
Attention Deficit Hyperactivity	59.08	45.72*	75.00	91.66
Oppositional Defiant Problems	44.33	45.18	-	-
Conduct Problems	45.76	44.36	-	-

* Statistically significant; Empty cells indicate non-significant findings

Score of 62 was used as cut off score based on earlier studies [22,23]. These children did not report behavioural disturbances on any of the externalizing scales. There was significant reduction in the scores of internalizing syndrome and DSM oriented scales reported on post therapy assessment indicating positive effect of MCBT in reducing emotional problems in HIV affected adolescents. More than 90 percent experienced clinically significant change in the emotional problems after therapy; similarly the changes were reliable in large majority (83% to 91%) of the subjects across all the internalizing scales.

Depression

Pre-therapy 'T' scores on different scales of CDI indicated that the subject were significantly depressed and low self-esteem and ineffectiveness were the predominant symptoms followed by sad mood (Table 2) and interpersonal problems.

Table: 2

Pre and post therapy scores for depression (CDI), anxiety (RCMAS), hopelessness (HSC), and academic stress (SAAS)

CDI Factor Scale Scores	Pre-therapy Scores	Post-therapy Scores	Clinical Significance (%)	Reliability (%)
Negative Mood	64.80	58.09*	83.33	91.66
Interpersonal Problems	62.46	55.13*	83.33	91.66
Ineffectiveness	66.04	56.42*	91.66	91.66
Anhedonia	60.78	58.81	-	-
Negative Self-Esteem	67.12	55.32*	91.66	91.66
Total Score	64.82	57.12*	91.66	91.66
RCMAS Scale Scores				
Physiological Anxiety	6.85	2.80*	83.33	91.66
Worry - Oversensitivity	8.18	4.85*	91.66	91.66
Social Concern	8.04	6.72*	75.00	83.33
Total Anxiety (T Score)	42.25	33.68*	83.33	91.33
HSC Score	9.66	4.25*	83.33	83.33
SAAS Score	18.36	11.65*	58.88	83.33

* Statistically significant; Empty cells indicate non-significant findings

There was significant reduction in the 'T' scores of CDI scales observed in post-therapy period indicating significant change in depressive symptoms. The changes in depressive symptoms were clinically significant and reliable to the great extent.

Anxiety

Out of three anxiety profiles of RCMAS, the subjects reported more social and psychological symptom profiles of anxiety as compared to physiological symptom profile (Table 2). Statistically significant differences between pre and post therapy scores indicated significant change in anxiety profiles of the subjects following treatment. The changes were clinically significant and reliable in as many as 91 percent of the subjects.

Hopelessness

Noticeable amount of hopelessness was reported by the subjects and there was a statistically significant difference between pre and post therapy mean hopelessness score of the subjects (Table 2). The change in the score of HSC following therapy was found clinically significant and reliable in 83.33 percent of the subject.

Perceived Academic Stress

Pre-therapy mean score of the subjects on SAAS indicated that these adolescents did experience stress in the area of academics (Table 2). There was significant difference between pre and post mean scores on SAAS indicative of effect of MCBT in reducing symptoms of academic stress.

The change in scores was clinically significant in 58 percent of the subjects and in 83 percent of the subjects this was reliable change.

Social & Interpersonal Competence

On ICS-T subjects scored low on academic achievements, aggressiveness, popularity, and social affiliation and high on internalizing qualities (Table 3).

Table: 3

Pre and post therapy scores for social & interpersonal competence (ICS-T)

ICS-T Scales	Pre-therapy	Post-therapy	Clinical Significance (%)	Reliability (%)
Aggressiveness	3.12	3.06	-	-
Academic Achievements	2.39	4.62*	66.66	91.66
Popularity	3.28	3.46	-	-
Social Affiliation	3.37	3.99*	66.66	83.33
Olympian Qualities	4.21	5.11*	58.88	83.33
Internalizing Qualities	6.35	2.72*	83.33	91.66
Total ICS-T Score	3.09	3.83*	66.66	83.33

* Statistically significant; Empty cells indicate non-significant findings

These scores indicated that they had poor academic performance, restricted socialization, and high internal distress along with difficulties in overall social competence. Post therapy scores in different scales of ICS-T indicated improvement in academic performance, enhanced social affiliation, and reduction in internalization of emotional feelings. They also showed improvement in participation of sports and outdoor activities after the therapy. Except for internalizing scale where more than 80 percent had clinically significant change, clinical significance varied between 58 and 66 percent. The changes were reliable in upto 83-91 percent subjects.

Other observations

Besides pre and post therapy assessments, a systematic observation of the process of therapy was carried out which yielded relevant information including, first the subjects were regular for mindfulness practice and shown keen interest it; secondly most of the subjects complied with all the instructions given to them including homework assignments; the feedback about the intervention program given by the subjects was generally positive; and combining mindfulness practice and cognitive behavioural intervention in the same sessions and using them with the subjects in groups had been quite feasible without difficulties. One subject expressed suicidal ideas and thoughts during cognitive behavioural counseling session and was sent for psychiatric consultation. However, he continued MCBT sessions along with medical treatment under extra supervision.

DISCUSSION

Adolescent children of the parents with HIV/AIDS are emotionally affected by their parents' condition and manifest a range of emotional disturbances [28]. In the present study, it was observed that such adolescents had emotional or internalizing problems including depression, anxiety,

somatic complaints, and feeling of stress, hopelessness, low self-esteem, and interpersonal problems. a significant number of them had academic problems/ stress, again confirming the fact that emotional state of mind influence academic performance and achievements [29].

In recent years, there has been growing interest in mindfulness-based cognitive behaviour therapy in the treatment of depression and anxiety syndromes. MCBT [30] based on the mindfulness training approach of Kabat-Zinn [31] combines mindfulness training/practice with elements of cognitive-behaviour therapy and teaches patients to recognize and disengage from modes of mind characterized by negative and ruminative thinking and to access and use a new mode of mind characterized by acceptance and 'being' [30]. MCBT has been found useful with school going children [11] which prompted the authors to carryout the present study. The result of this study revealed that there was reduction in internalizing problems as measured by Youth Self Report, depression as measured by Children's Depression Inventory, anxiety as measured by Revised Children's Manifest Anxiety Scale, hopelessness as measured by Hopelessness Scale for Children, and in perceived academic stress as measured by Scale for Assessing Academic Stress on post-therapy assessment indicating positive effect of MCBT. Similarly there was improvement in academic performances, social affiliation, popularity, olympian quality, and overall social competence of the subjects as measured by Interpersonal Competence Scale following therapy. Thus it is evident that MCBT not only controls symptoms of emotional disturbances but also enhances competencies. Since the subjects practiced mindfulness exercise and guided meditation inside the sessions and outside sessions as homework assignments, and these exercises by nature enhance focus and cognitive clarity [30]; they experienced enhanced competence. Being regular in sessions, compliance with instructions & tasks given, high attendance, high retention rate, and positive feedback indicate that the subjects accepted the intervention adequately. In their study Jennifer et al. demonstrated that MCBT was helpful in reducing internalizing and externalizing symptoms of children on parent report measure and concluded that such intervention was feasible and acceptable to the clients [11].

In the past decades, the discussion of clinical significance has taken centre stage in psychological intervention research. Inclusion of the analyses of clinical significance of therapy outcome and reliability of change after therapeutic intervention in therapy outcome research has been referred to as one of the major methodological advances. It has been argued recently that traditional methods for evaluating the effects of therapeutic intervention might be insufficient for estimating whether the treatment effects are clinically significant and reliable. In the present study, attempt was made to see whether the outcome of MCBT was clinically significant and reliable by using the methods suggested by Jacobson & Truax [27]. The criterion for a clinically significant improvement applied in this study was based on the point that lies half-way between the means of functional and dysfunctional distributions. The values of functional distributions for the outcome measures were taken from the literature of the particular measures and from the previous studies [29,32]. It was demonstrated that more than three-fourth of the subjects showed reliable and clinically significant improvement on all outcome measures.

Acceptance of therapeutic modality by the client is essential for any therapy or intervention program to become an established and recommended intervention for given disorder or condition. The satisfactory attendance rate, high retention in therapy as observed by the therapists, adequate compliance, and positive feedback as observed during the process of MCBT indicated that this kind of treatment approach could be feasible and acceptable in our setting with adolescent client.

Majority of outcome measures was self-report providing adolescents report their symptoms of emotional disturbances. Self-report has been considered as most appropriate method of assessing emotional problems in adolescents [22,23,32]. The investigators tried to look at the outcome of MCBT from client perspective and the perspective of significant other (teacher), clinician's perspective did get involved in the assessment of improvement through observation in

the process of therapy. Thus the multiple perspective model or tripartite model [33] of therapeutic outcome was applied. Involving professionals in pre and post-therapy assessments and keeping them blind for the aims and objectives of the study helped making the assessment objective and bias-free and added strength in the methodology of the study. Findings of this study offer MCBT as a potential treatment for emotional disturbances in HIV/AIDS affected adolescents with adequate feasibility and acceptability. However, further research is needed to test the efficacy of the intervention with a larger sample of such adolescents and also with those who meet diagnostic criteria for clinical disorders.

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