Method

The present study focuses on to examine the effect of mindfulness therapy on adolescents manifesting symptoms of ADHD. The emphasis was to find out quantitative and qualitative changes in attention, concentration, self regulatory behavior, and emotional regulation, (cognitive, behavioral, emotional and social domain of adolescents). This chapter describes the research methodology that was used in this study including:

Population and Sample
Measures
Procedure
Statistical Procedures

3.1 Population and Sample:

The target sample of the study was of adolescents with the age group of 13 to 16 years who were regular students of private schools. The sample of the present study comprises of 33 students (obtained after the screening of 400 subjects) in the age group of 13 to 16 years who were found to have inattention, difficulty in focusing, over-talkative, impulsive, blurt out things, lack of patience, always on go, difficulty controlling emotions, aggressive behavior, problematic behavior, low self esteem etc), were considered as the early indicators of ADHD. The pre- measures of ADHD, executive functioning, impulsivity, emotional and conduct problems were also measured. The screening of the sample was done with the help of respective tools used in the study. The primary mode of the sample selection was observation by teachers and research investigator which was further followed by parental interview and other tests. The selected sample of adolescents was a group of adolescents manifesting symptoms of ADHD and engaged for the first time for treatment related to ADHD.
3.2 Inclusion criteria

The present research sample consisted of 33 adolescents manifesting symptoms of ADHD screened by Conners ADHD rating scale. The average age of sample ranged between 13 to 16 years. The sample consisted of adolescents as regular students of private school. The selected sample will belongs to same socioeconomic status.

Exclusion criteria

The participants with other psychiatric problems were excluded. The participants with other childhood disorders (such as learning disability, mental retardation, pervasive developmental disorder, seizures, adjustment disorder.) were excluded. The participants who were receiving outside mental health treatments were not considered in the present research.

3.3 Measures:

The present study was conducted on the adolescents manifesting symptoms of ADHD and the measures used in the study were selected in accordance with the objectives of the study. The measure used in the study were selected to assess the key variable of the study, such as attention, hyperactivity, impulsivity, executive functioning, emotional problem, conduct problem, aggression and self esteem. The selection of tools for the present study was done while considering the psychometric properties, nature of sample, scoring and interpretation. The tools used in the present study are as follows:

Tools:

2. The d2 Test of Attention by Brickenkamp & Zillmer (1998) to measure selective and sustained attention.
6. Strengths and Difficulties Questionnaire developed by Robert Goodman (1997) and is used as screening measure of emotional and behavioral difficulties in children and adolescents.

7. Rosenberg Self Esteem Scale by Rosenberg (1965), measure the self-worth both positive and negative feelings about the self.

8. Mindfulness Attention Awareness Scale by Brown & Ryan (2003), to assess general tendency to be attentive to and aware of present-moment experiences in everyday life.

3.3.1 Conners ADHD Rating Scale (3rd Edition):

The Conners ADHD Rating Scale is a thorough assessment of attention deficit/hyperactivity disorder (ADHD) and its most commonly associated problems and disorders in school-aged youth. The Conner’s 3 is a multi-informant assessment with forms for parents, teachers, and youth. The Parent version assesses the behavior and other concerns in children from the age of 6–18 and both full-length and short versions are available. The short version for Conner’s parent rating scale consists of 43 items which assess the key areas such as inattention, hyperactivity/impulsivity, learning problems, executive functioning, aggression, and peer relations. The parents were asked to respond about the adolescent behavior during the last month and rating of behavior was done. The parents were instructed to respond “0”, if the behavior of the adolescents has been observed as NOT TRUE AT ALL. “1”, if the behavior has been noticed JUST A LITTLE TRUE. “2”, if the behavior has been seen “PRETTY MUCH TRUE” and “3”, if the behavior found to be “VERY MUCH TRUE”. The internal consistency coefficients for the total sample ranges from .77 to .97, and 2- to 4-week test-retest reliability coefficients (Cronbach’s alpha) ranges from .71 to .98 (all correlations are significant at p < .001) and the inter-rater reliability coefficients range from .52 to .94.

3.3.2 The $d^2$ Test of Attention:

The $d^2$ Attention Scale developed by Brickenkamp & Zillmer (1998) to measure selective and sustained attention. It is a paper pencil test. In this scale, the 14 test lines with 47 characters in each line are available. Each letter consists of a letter ‘d’ or ‘p’ marked with one, two, three or four small dashes. The subjects were instructed to put
cross on the letter "d" with two dashes above it or below it while ignoring the all other characters.

3.3.3 Brown Attention Deficit Disorder Scales:

The Brown ADD Scales for Children & Adolescents was developed by Brown (2001). It can be used for screening of children and adolescents suspected of having an Attention Deficit Hyperactivity Disorder and as a comprehensive diagnostic assessment tool in a battery of assessment instruments. The scale address a variety of ADHD related cognitive impairments (executive function) and symptoms beyond –IV criteria. The Brown ADD scales for children are designed for evaluating children in two age groups: age’s 3-7 years, and ages 8-12 years both parent and teacher version available in addition to this for 8-12 years self report is also there. The Brown ADD Scales for adolescents is having (collateral and self-report) for assessing individuals’ ages 12-18 years. The scale offered likert –type frequency responses (0=never to 3=almost daily) to statements. For cluster of Brown ADD Scales for Adolescents, alpha coefficients for self ratings of adolescents and 12 years ranged from .70 to .89. The alpha coefficient for total scores of adolescents self rating ranged from .90 to.95. The test retest reliability for the total scores for the non-clinical adolescents sample aged 12-18 years was reported as .87.

The Brown ADD Scales for Adolescents include 40 items which was administered to assess five clusters of ADHD-related executive function impairments.

**Cluster 1: Organizing, prioritizing, and activating to work:** This cluster is comprised of problems with organizing and initiating work activities. Work refers to the child’s class work or homework and to any tasks that are not self-selected for fun. Elevated scores in this cluster are often due primarily with organization, for arousal, and a chronically high level of anxiety that inhibits action. Children who have a chronically high threshold for arousal are likely to score high on items such as “has excessive difficulty getting started,” “procrastinates excessively,” “is slow to react, sluggish”. Often these children have great difficulty getting activated unless the task is extremely interesting to them or unless it has become a real emergency; it takes a lot a lot for them to get “cranked up” to get started on a task.

**Cluster 2: Focusing, sustaining, and shifting attention to tasks:** These items query a child’s chronic problems in sustaining attention and focus for tasks or in shifting
attention as needed from one focus to another. Some of the items relate to inattention in receptive modes (e.g., “mind drifts when listening” or “gets so preoccupied with own thoughts on imagination that whatever else is going on is unnoticed”). Other items relate to vulnerability to distraction in more active modes (e.g., “is easily sidetracked” or “starts talking about one topic and then interrupts self and switches to talking about something else”).

Cluster 3: Regulating alertness, sustaining effort, and processing speed: This cluster includes behaviours such as insufficient regulation of alertness, insufficiently sustained effort, and problems with excessive slowness in processing information. Some items relate to apparent drowsiness or chronic lack of energy that may be interrupted as laziness (e.g., “appears to feel sleepy or tired during class,” “appears to lack initiative to do assigned work, seems not to care much”). High scores on these items, especially if matched with high scores on Cluster 1, may reflect a lethargic mode often seen in AD/HD impairments of the Predominantly Inattentive Type.

Cluster 4: Managing frustration and modulating emotions: Items in this cluster address the extent to which a child’s difficulties with regulating emotional reaction such that frustrations, worries, anger, hurt feelings, sadness, etc., take over too much of what the child is thinking or doing. Items address frustrations with excessive irritability, feelings hurt too easily, work disrupted by excessive worries, or getting overly discouraged and depressed.

Cluster 5: Utilizing working memory and accessing recall: These items query a child’s forgetfulness in daily routines and problems in recall of learned material. For younger children, items assess difficulties in remembering directions, in remembering daily routines, and problems in recalling basic learning. Older children are queried about difficulties following through on intended actions, losing track of belongings, and problems in memorizing vocabulary or math facts. Adolescents are asked about problems in keeping track of assignments and chronic difficulty in recalling learned material.

Cluster 6: Monitoring and self-regulating action: Items in this cluster address problems the child may have in sizing up situations to recognize what should be done and in self-regulating actions to do what is appropriate. Some of the items in this cluster indicate an inability to monitor a situation adequately before acting. These problems may result from being “excessively driven”. For younger children this
includes butting in or interrupting others and having much more difficulty in waiting for things than do most others of the same age. Older children are queried about doing too much teasing or arguing after being asked to stop, grabbing things or starting actions without waiting for permission or directions, doing things too fast, and not slowing down enough to write letters or numbers carefully.

3.3.4 Barratt Impulsivity Scale

The Barratt Impulsiveness Scale (BIS), developed by Patton et al., (1995). Impulsivity has been defined as “a predisposition toward rapid, unplanned reactions to internal or external stimuli with diminished regard to the negative consequences of these reactions to the impulsive individual or others” Moeller, Barratt, Dougherty, Schmitz, & Swann, (2001); Potenza, (2007). This scale is one of the oldest & most widely used measures of impulsive personality traits. The self report questionnaire consists of 30 items and uses a 4-point likert scale. The respondents are asked to response the items according to the actions taken by them in a particular kind of situation. The respondent has to answer the items in the format rarely/never = 1, occasionally = 2, often = 3, always = 4. The BIS-11, items may be scored to yield six first-order (attention, motor, self-control, cognitive complexity, perseverance, and cognitive instability impulsiveness) and three second-order factors (attentional, motor, and non-planning impulsiveness). Stanford et al. (2009) reported total scores on the BIS-11 demonstrated reasonable test-retest reliability over one month (Spearman's rho = .83) and that the scale has internally consistent (α = .83). Patton et al. (1995) report internal consistency coefficients for the BIS-11 total score that range from 0.79 to 0.83 for separate populations of undergraduates, substance-abuse patients, general psychiatric patients, and prison inmates.

3.3.5 Buss Perry Aggression Questionnaire

The Buss Perry Aggression questionnaire (BPAQ; Buss & Perry, (1992) represents a revised version of the Buss-Durkee Hostility Inventory (BDHI), is the most frequently used questionnaire for assessing hostility and aggression. It is 29 item questionnaire contains concise statements such as, (Once in a while I can’t control my urge to strike another person) to which respondent assigns a number ranging from 1 to 5, where “1” stands for extremely uncharacteristic of me, and “5” denotes a extremely characteristic of me. This questionnaire yields a total score and four subscale scores: physical aggression, verbal aggression, anger and hostility. There are nine items of Physical
aggression, five items for verbal aggression, seven items of anger and hostility contains eight items. The two subscale i.e. physical and verbal aggression represents a motor or instrumental element, anger employ psychological activation for aggression and has emotional or affective component in it whereas hostility represents the cognitive component. The minimum score can be 29 and maximum can go up to 145. The internal consistency coefficients were as follows: Physical Aggression, $\alpha = .85$; Verbal Aggression, $\alpha = .72$; Anger, $\alpha = .83$ and Hostility, $\alpha = .77$, with the internal consistency being $\alpha = .89$. Test-retest reliability (nine weeks) for the subscales and total score ranged from $\alpha = .72$ to $\alpha = .80$ (Buss & Perry, 1992). The questionnaire has good psychometric qualities.

### 3.3.6 Strengths and Difficulties Questionnaire

The Strengths and Difficulties Questionnaire was developed by Robert Goodman (1997) and is a brief screening measure of emotional and behavioural difficulties in children and adolescents across the globe. It is being used as a research tool throughout the world- in developmental, genetic, social, clinical and educational studies. SDQ versions are available for self-reporting by adolescents aged 11 to 16 years, as well as for parents and teachers of children and adolescents aged 4 to 16 years. The SDQ contains 25 attributes with small sentences), categorized into five scales of each five items including: hyperactivity/inattention, conduct problems, peer problems, prosocial behavior and emotional symptoms. Responses to each of the 25 items consisted of 3 options: not true, somewhat true, or certainly true. For all scales the items that are worded negatively are assigned scores of 2 for certainly true, 1 for somewhat true, and 0 for not true. In the present study parent version has been used with two categorize i.e. emotional and conduct problems, total ten items has been included. SDQ has good psychometric properties.

### 3.3.7 Rosenberg Self Esteem Questionnaire

The Rosenberg Self-Esteem Scale (1965) is perhaps the most widely-used self-esteem measure in social science research. A 10-items scale that measures global self-worth by measuring both positive and negative feelings about the self. The scale is believed to be uni-dimensional. All items are answered using a 4-point likert scale format from strongly agree, agree, disagree, strongly disagree. The respondents are asked to encircle SA if they strongly agree with the statement and subsequently it is follow agree (A),
disagree (D) and strongly disagree (SD). Scale items have been paraphrased and shortened since higher scores on total scale indicate better self esteem, negatively worded items 2, 5, 6, 8, 9 are scored in a reverse direction. Minimum score on scale is 0 and maximum is 30. Rosenberg Self Esteem Scale represents a continuum of self worth ranging from statements that are endorsed even by individuals with low self esteem and high self esteem. The high scores represent high self esteem. The scale generally has high reliability: test-retest correlations are typically in the range of .82 to .88, and Cronbach's alpha for various samples are in the range of .77 to .88.

3.3.8 Mindfulness attention awareness scale (MAAS)

The mindful attention awareness scale (MAAS) developed by Brown & Ryan, (2003) is a 15-item measure assessing the general tendency to be attentive to and aware of present-moment experiences in everyday life. MAAS rated on a 6-point likert scale from almost always to almost never. Items describe being on automatic pilot, preoccupied, and inattentive and are reverse scored, so that higher scores represent higher levels of mindfulness. Factor analyses revealed a single-factor structure. Example items include, “I find it difficult to stay focused on what’s happening in the present” and “I break or spill things because of carelessness, not paying attention, or thinking of something else.” The MAAS has demonstrated good reliability, with Cronbach’s alpha coefficients reported at .82 and .86 in separate studies Brown & Ryan, (2003); Baer et al., (2006) respectively and test-retest reliability of .81 reported by the authors. The scale has been validated among college students, community adults Brown & Ryan, (2003); MacKillop & Anderson, (2007), and individuals with cancer Carlson & Brown, (2005). Items are framed so as to capture experiences that are the opposite of mindfulness, which are then reverse scored, so that higher scores reflect higher levels of mindfulness. Furthermore added by Brown & Ryan, (2003), that the MAAS has evidence of both significant positive and negative relationships with a variety of psychological constructs measured by well validated psychometric scales, and it is significantly positively related to scales measuring openness to experience, clarity, attention, and repair of mood, flexibility, novelty seeking, and engagement, internal state awareness, and negatively to scales measuring self-consciousness, social anxiety, rumination, and absorption. According to Schroevers et al.,(2008), the MAAS is a reliable instrument, assessing a unique quality of awareness.
3.4 Procedure:

According to research plan, initial step was to interact with school administration for the implementation of the program. The different schools were visited for orientation and proposal for the program. Afterward the schools which show interest in the program were selected and accordingly further plan of action were executed. In initial phase of the program the orientation session was conducted for school teachers and principal in concern to adolescents manifesting problems in concentration, difficulty in seating at one place, distract easily, disturbs others in class etc. The orientation session was winded up by clarifying the doubts and concerns. Later on screening questionnaire was distributed to teachers to screen out the students.

1. Difficulty in concentration
2. Forgets easily
3. Forgets to bring assignments
4. Difficulty in waiting for turn
5. Easily involved in arguments or fights.
6. Talk non stop
7. Fidget and squirm in their seat.
8. Impatient
10. Incomplete class work and home work.

Simultaneously the classroom observation was done by researcher (trained child psychologist) to screen out the adolescents manifesting the symptoms of ADHD. After screening of sample was done through classroom observation and by the teachers then in the next phase parents were called specifically of selected adolescents. The psycho education session with parents was conducted in group setting later on one on one concerns were dealt includes (child’s behavior, relationship with siblings, parents & friends, learning difficulties, emotional difficulties) at home setting. After that Conner parent rating scale was administered to discern out the features of ADHD. Further all selected tests in the present study were administered. Finally a sample of 33 adolescents was selected.

To initiate with Mindfulness intervention programme the screened sample of adolescent was assessed with different tools specifically selected for the present study. The baseline measure of screened sample of adolescents was taken by administering Conner ADHD Scale, d² Attention test, Brown’s ADD Scale, Barratt Impulsivity Scale, Buss Perry Aggression Scale, Rosenberg Self Esteem Scale, Strength and Difficulties Questionnaire. After conducting the above cited test the adolescents manifesting symptoms of ADHD were put under the extensive therapeutic intervention program.
The mindfulness therapy was administered on adolescents with ranging between mild to moderate symptoms of ADHD. The consent form was taken from the parents of selected adolescents.

3.5 Implementation of Mindfulness therapy with ADHD Adolescents

The present study on mindfulness therapeutic program for adolescents was designed for six months and was implemented on adolescents with ADHD for five days a week with each session of 45 minutes. The adolescents under mindfulness therapeutic program were being assessed after every three months. The mindfulness program inculcates both group and individual sessions. The Mindfulness therapeutic program specifically planned for ADHD adolescents while considering the challenges of the disorder and its impact on one’s life. The adolescents with ADHD faced number of problems associated with different domains of life such as adolescents perception about self, world and others, difficulty in academics, inattention, lack of concentration, forgetfulness, easily distractibility, difficulty in planning & sequencing of task, impulsivity, aggressiveness, stubbornness, difficulty regulating emotions, teacher-student relationship, parent-child relationship, peer relation etc. the whole intervention plan was designed to cater the primary core deficit and associated problems.

The introductory session was planned and carried out with the adolescents to get oriented with the whole purpose of the program and its guidelines. Certain the ground rules were framed and written down on a sheet visible to the adolescents. These initial few sessions were designed for rapport building with adolescents and to make them comfortable within the group setting. The initial few sessions were designed to create interest, curiosity and acceptability for ones and others feelings. Further, the psycho education session was conducted with the adolescents manifesting symptoms of ADHD. The ambiance of the group was child friendly, safe, open, accepting and appreciating to new ideas. The room selected for the intervention was away from distraction free area. Each adolescent received a folder, session summaries, and practice exercise worksheets. The adolescents used to take their folder back to home at the end of the program. The following domains were targeted with the mindfulness therapeutic program: Inattention, Hyperactivity, Impulsivity, Behaviour/Conduct, Aggressive behaviour, Emotionality.

The Mindfulness Therapeutic Program emphasizes on the An 8-step program for strengthening Attention, Managing emotions, and achieving your goals specifically
designed for ADHD individuals by Lidia Zylowska, MD, psychiatrist. Furthermore, new activities/steps from different training modules were ingrained in this program. Each new session was initiated with icebreaker / mind jog related to attention and awareness which adolescent used to enjoy a lot. All the sessions were conducted by using multiple sensory approaches. The following sessions were included to target ADHD symptoms.

The self awareness session was conducted to make the adolescents aware about their strength and limitations. The adolescents were asked to write 5 statements each starting “I AM…….” & other activities related to self were conducted with the purpose to build vocabulary for appreciation/ praise because it was observed during session that ADHD adolescents usually get indulge in negative behaviour such as getting irritate easily, difficulty in tolerating and getting impatient, complaining attitude, aggressive behaviour etc. The skill of ‘reflection of feelings’, being having ‘non judgmental and non reactive attitude’ are the core tenets of mindfulness therapy so these skills were modelled, practiced and taught them in initial month of programme as these skills assisted them in making them more subtle and regulating the uncontrolled behaviour enable them develop more calm and relax. This was done with the notion that these soft skills takes to time in getting imbibe and creating neural pathways to modulate automatic/ habitual response pattern. In the light of review of literature it has already been significantly proven regarding the association of mindfulness training and neuroplasticity of ADHD adolescent.

The different activities were executed under the following each eight step however the mindfulness of loving kindness was carried at the end of each session.

1. Become More Present (Attention and the five senses)
2. Focus the Wandering Mind (Mindful Breathing)
3. Direct and Anchor Your Awareness (Mindfulness of sound, breath and body).
4. Listen to Your Body (Mindfulness of body sensation and movement).
5. Observe Your Mind (Mindfulness of thoughts)
6. Manage Your Emotions (Mindfulness of Feelings).
7. Communicate Skillfully (Mindful Listening and Speaking).
8. Slow Down To Be More Effective (Mindful Decisions and Actions)

❖ Mindfulness in daily life.
**Become More Present** (Attention and the five senses): The very first step involves getting oriented with awareness of one’s surrounding and oneself. In this ADHD adolescents were given training regarding five senses such as seeing, hearing, smelling, tasting and touching. Mindful Seeing in this participants were instructed to explore surroundings with their eyes and observe what catches their attention and awareness it could be anything. Mindful hearing involved the participants to tune in to sound in the surrounding environment. Mindful smelling involved the ADHD adolescents were asked to feel the smell in the environment it could be pleasant, unpleasant smell. Mindful tasting in this participant were asked to bring lunch in this session and directed to practice just tasting as if they were eating it for the first time. Mindful touching involved the participants to feel the sensation of touch i.e. smoothness, coolness, roughness, or warmth.

In the whole series of tuning into five senses the participants were involved in different activities to experience each senses mindfully. The ADHD adolescents were given reminder cards for “attention check in” were asked to keep a check of attention at different interval and getting tune into surrounding environment and five senses. The purpose of the activities is to bring attention and awareness in the present moment.

**Focus the Wandering Mind** (Mindful Breathing): It focuses on the breath as medium to curb a wandering mind and breathing is a powerful tool for developing self-regulation. In Mindful breathing the ADHD adolescents were given simple and precise instructions so that they can easily follow it. Initially it was conducted with simple breathing exercise, in which they were asked to just observe the natural flow of breath with each inhalation and exhalation later on they were trained to focus and monitor their attention towards the sensation of breath. With this practice, it was added in instruction that during this process as the mind wanders frequently and thoughts keep disturbing us – that’s OK. Simply gently try to return your focus on attention on the process of breathing. The session of Mindful breathing were continued throughout the program with varying time period.

Other then this formal training of mindful breathing session it was also incorporated in daily life simply by remembering to notice the breath, even for few seconds, in the midst of activity. Such can be the situation – before and after reading lesson, before start of each class, as cellphone rings at home etc for this visual reminder (“where is my attention right now”? Or “what I am doing right now”? ) were given to ADHD
adolescents so that they could remember it. Safren 2006 stated that visual reminders recommended as environmental reminder to connect with the present moment awareness.

**Direct and Anchor Your Awareness (Mindfulness of Sound, Breath, and Body):** As the name suggests the participants were trained to anchor their attention and awareness to Sound, Breath, and Body. In this, activities are set with an intention to pay attention to specific thing—either sounds in the environment, breath or body sensation—all of which anchor to present moment. This put one “driver’s seat of attention” and strengthens the ability to self regulation of attention and awareness. The different activities were employed such as “Mindful listening to music” and “STOP”

It is difficult for ADHD adolescent to remain attentive in sustain period of time so to make it more interesting the mindful listening to music was included. Music is a collection of different sounds with changing tempo and intensity and listening to it involves shifting awareness from one tempo to another. Listening to music also involves anticipating certain changes and sustaining attention.

**Listening to music:** In this activity the music was played in the background and ADHD adolescents were asked to sit in a circle with the closed eyes and notice any shifts in the music tempo or intensity and observe the feelings, thoughts, imagery or body evoked by music. Continue listening and observing thoughts, feelings, and body sensations until the music ends. The intention was to train our attention, awareness and alertness in the present moment. In mindfulness listening of music one listen the music moment to moment changes and shifts in the sound rather than being “swept up by the music.”

**Listen to your Body (Mindfulness of Body Sensations and Movement):** In this step of mindfulness program, the attention and awareness is focus on different regions of the body and observing any sensations if present there. The “body scan” activity was carried out with ADHD adolescents. It was started from the top to bottom and participants were asked to focus on the top of their head and feel any sensations there it can be itching, heaviness, or vibration etc. and the instruction in very precise way were continued to scan whole body.” The other activities conducted were “Mindful Movement”, “Mindful Walking”, “Mindful Shaking and Dancing” and “Soft Smile”.
A study carried out by Dr. Dana Carney (2010) at University of Colombia demonstrated that changes in the posture can have significant effect on the levels of hormones, behavior and inner feelings.

**Observe Your Mind** (Mindfulness of Thoughts): The mindfulness first involve to watch or witness the flow of thinking instead of being caught up in the narrative in our head, mindfulness invites to observe the thinking as an ever changing stream, similar to watching clouds float across the sky and “Mind like a Sky”. A study by Norman Farb (2007) at the University of Toronto showed that mindfulness training can weaken the tendency to be caught in an inner story and analysis of yourself.

The focus in this was created on Mindfulness of Unhelpful thinking which involves judgmental thinking which is often characterized by hypercritical or disapproving thinking and can be barrier to being open and receptive to experiences. The negative self talk and self doubt are often reported by ADHD. So to have healthy coping mechanism the ADHD adolescents were trained to identify cognitive distortions such as mind traps- “All or none thinking”, “Blaming others”, “Magnifying or minimizing” or “Rigid Thinking” etc. After identification of mind traps the participants were given training of Mindful Thinking in which they were ingrained with skill of rebalancing thought pattern and more constructive coping strategies. The skill of Radical Acceptance was also introduced which means accepting the present moment without judging. The ADHD adolescents were informed that radical acceptance is being mindful because if one is judging oneself then one is not paying attention in the present moment. Participants were given worksheet in which they were asked to write distressing or provoking situation on the other hand they were encouraged to make plan of new of coping thoughts. The other activities involved were “Judgment Defusion”, “Wise Mind Meditation”.

**Manage Your Emotions** (Mindfulness of Feelings): ADHD children and adolescent find it difficulty in regulating emotions. In this step, the focus was given on acceptance and awareness of emotions. The ADHD adolescents were given worksheet to record daily events even small ones, which evoked emotional responses positive, negative or neutral. The Mindful observations of emotion enable the adolescents in recognizing the triggering event and urge to make action. Here in only the coping strategies, radical acceptance introduced in the last step were used by adolescent to regulate the emotional reactions or immediate need to respond back was decreased. The vocabulary of positive
emotions were also given and discussed with them. The RAIN technique was introduced in this step, R stands for recognize, A- accept, I-investigate, N- non identifying. The ADHD adolescent were given training on practicing RAIN technique to regulate negative feelings. Mindful responses to emotions include “Loving Kindness” and attitude of self-compassion, patience and openness.

The loving kindness meditation was also carried out with ADHD adolescent to inculcate the skill positive emotions such as of self compassion, gratitude, forgiveness, patience. The participants were given worksheet in which they were asked to express and record the gesture of positive emotions to self and others in a day.

**Communicate Skillfully** (Mindful Listening and Speaking): In this step, the focus was on mindful listening and speaking which involve- speaking slowly, withholding an impulse to interrupt or give feedback, use of sandwich statement, empathetic, nonjudgmental, and attentive. This session was started with brainstorming exercise and ADHD adolescent they pen down about mindful communication and skills required for it. Further remaining skills were introduced to participants. After that the role play sessions were continued by dividing the participants in pairs. Every pair of participant was given situation for role play and asked to use the skill of mindful communication. The participants were given visual reminders to practice mindful communication in the classroom and home setting and record the feedback from others.

**Slow Down to Be More Effective** (Mindful Decisions and Actions): In this last eight step of mindfulness tools all the previous session were practiced this allows deeper awareness and leads to mindful self coaching: an inner voice that help to guide action. In mindful decision and actions three basic principles were introduced with adolescents’ i.e. pausing, calm focus and mindful self coaching. It was practice during session that whenever the ADHD adolescents were presented with the task they were to instructed to take few minutes just to observe and bring their attention, awareness on their breath, sound, body, thoughts and feelings. Stop for a moment then take a breath after that observe the present moment and then proceed

Calm focus: As ADHD adolescents easily got overwhelmed, uneasy, agitated or restlessness so they were trained specially for this phase that they could practice calming their body and mind by taking several deep, mindful breaths. Even this was
practice during classroom setting when they used to become restless for this they were given visual reminder cards.

Mindful self coaching: mindfulness develops self coaching voice to guide actions from within even including the tasks which are difficult for ADHD. It involves developing supportive, compassionate, and encouraging inner voice thus building the reservoir of insight and discernment that further guides actions.

Furthermore adolescents were taught to apply mindfulness in Mindfulness in daily life and difficult situations, such as being getting distracted, provoked by friends etc. At the end of the program, the feedback was filled by ADHD adolescents to recall their experience during mindfulness session. The adolescents were given handouts and smiley batch as a token of appreciation for being consistent, motivated and co-operative.

The material used while conducting Mindfulness Therapeutic program mats, Clay, Chart papers, dafali, sketch pen, wax colors, sheets, CD player, file folders, notepad, worksheets and handouts.

3.6 Statistical Analysis:

After the completion of therapeutic program, the post test measure was done with the ADHD adolescents. Further, baseline, middle and post measure were compiled and put for statistical analysis with help of descriptive statistics (mean and standard deviation), and paired t-test was used to test the significance of difference between means.