International Journal for Social Studies
Available at https://pen2print.org/index.php/ijss/

ISSN: 2455-3220
Volume 04 Issue 09
September 2018

Effect of Mindfulness Therapy to reduce hyperactivity among adolescents

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Abstract

Hyperactive child not only affect his own academic growth, but also affect the overall academic environment of the classroom. With this backdrop, the present study investigated the effect of mindfulness therapy on hyperactivity of adolescents manifesting symptoms of Attention Deficit Hyperactivity Disorder. A sample of 33 students with Attention Deficit and Hyperactivity Disorder (ADHD) was included in the investigation. The relevant tools and scales were administered on the respondents. The data was analyzed by applying appropriate statistics and results indicate that Mindfulness therapy is helpful in reducing the hyperactivity to facilitate the academic growth and personality development. It enables the students to control their impulse and also inculcate the more aware state about ones feeling. The mindfulness based interventions are found very helpful in managing hyperactivity among adolescents and also can be integrated in school and educational setting to promote mental health in order to achieve professional excellence.

Keywords*: Mindfulness; Hyperactivity; Adolescents.*

Introduction

An academic performance of the child depends upon the various factors. It includes family environment, stimulation around

and parent child relationship. At times, there are some conditions which affect the overall academic growth of a child. A disorder known as Attention-Deficit Hyperactivity Disorder, it is a complex disorder with various problem behaviors and drastically affects the academic performance of the child. The Diagnostic and statistical manual for mental disorders (DSM-IV-TR) describes the features of ADHD as a disorder of continuous pattern of inattention and/or hyperactivity impulsivity it is marked and severe which is manifested by the child (American Psychiatric Association, 2000). As it is a behavioral disorder, features tend to be changed with the progression of time; therefore, DSM-V has now listed ADHD under the heading of Neuro developmental Disorders. International Statistical Classification of Diseases and Related Health

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Problems (ICD-10) refer ADHD as "Hyperkinetic disorders" however when a conduct disorder is present, then condition is referred to as hyperkinetic conduct disorder, (World Health Organization, 2010). Whereas, the Diagnostic and Statistical Manual-IV TR (2000) divides ADHD into three subtypes: predominantly inattentive, predominantly hyperactive-impulsive, and combined (inattentive and hyperactive-impulsive). Attention disorders are characterized by limited attention and difficulty in concentrating". Students are unable to concentrate on a task and have difficulty screening out irrelevant stimuli. Impulsivity represents a child's difficulty in withholding active responses such as blurting out statements or grabbing materials. Hyperactive child "display rates of motor behavior that are too high for their age groups; they indulge in excessive e and non-purposeful movement".

The main features of ADHD are impulsivity and over activity. Client with diagnosed with ADHD exhibits hyperactive behavior, increased motor activities, socially ill-suited, interruptive and disruptive behaviors, aggressive behaviors, disobedient behavior, breaks social rules and externally motivated. It has been observed by researchers that ADHD children have constant need for stimulation and the novel situation as their motivational center is also impacted. Parents and teachers describe hyperactive children and adolescents acting as if driven by a motor, always on the go, fidgety and difficulty in waiting and too quick at responding when expected to wait and watch for events to occur. Hyperactivity is a key clinical feature, it is an increased tendency to move around, run, climb, etc. than children of the same age without ADHD Barkley (1997); Biederman (2005). In many investigations, it has been suggested that the parents and teachers dealing with ADHD children found them more active than their peers. The symptom of hyperactivity and disinhibited behavior becomes more apparent in early childhood i.e. 3-4 years of age as compared to the feature of inattention, which usually arise around 5-7 years of age or later. Barkley,(1997) reported that these symptoms subsidies in reverse pattern, hyperactivity declines as the child gets older while inattention persists at least up and until adolescence.

According to DSM-V Criteria (APA, 2013)

There are two visible and continuous symptoms of inattention and/or hyperactivity-impulsivity which disrupt the overall development of child:

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In the area of inattention, there should be six or more symptoms of inattention up to age of 16, or five or more for adolescents 17 and older and adults; symptoms of inattention should be present for a length of least 6 months, and they are not appropriate to the developmental level of the client:

- Inability to pay close attention to details or makes sloppy errors in school assignments and other activities.
- Faces problem in holding attention
- Often does not seem to listen when spoken to directly.
- does not understand instructions and fails to finish schoolwork, chores, or duties in the workplace
- Often have trouble organizing tasks and activities.
- Does not like to do tasks that need prolonged mental effort (such as schoolwork or homework).
- Frequent loses necessary items for tasks and activities
- Easily distractible.
- Forgetfulness in daily activities.

In the area of Hyperactivity and Impulsivity: As per the symptom and duration criteria, Six or more symptoms of hyperactivity-impulsivity for children up to age 16, or five or more for adolescents 17 and older and adults. The features of hyperactivity-impulsivity should be for last at least 6 months which is inappropriate and disruptive as per the developmental level of a person.

- Taps hands or feet, or squirms in seat often
- Does not sit for a long time when remaining seated is desired
- Often runs about or climbs in situations where it is not appropriate (adolescents or adults may be limited to feeling restless).
- Fail to participate in play or leisure activities patiently
- Increased motor behaviors
- Excessive talkative
- Does not listen complete question and blurts out for answer

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- Fail to wait his turn
- Disturbs other when they engage in conversation

In addition, some other conditions must be met to fulfil the diagnostic criteria for ADHD.

Mindfulness: Efficacy in managing hyperactivity

Pornpimol et al (2014) claimed that Mindfulness training is a very beneficial if it is applied in a supervised environment and by a trained professional. Recent trends in therapeutics indicate that psychological interventions are going to be the first choice treatment for various mental health conditions. A lot has been happened in the last couple of decades to improve the quality of life and wellbeing of people.

Fabiano et al. (2009) have done the first mea-analysis on efficacy of behavioral modification procedures and concluded that effect sizes are not same with different study designs. In between-group design study (behavioral therapy and control) effect size was significantly greater. Whereas, pre- and post-treatment scores showed moderate effect size and relatively greater in the within-subject and single-subject studies. These investigators proposed to disseminate such behavioral methods in society, school, and mental health clinics to facilitate the learning of students. A recent meta-analysis carried out by Hodgson et al. (2014) examined to the role of seven types of intervention for children and adolescents with ADHD namely behavioral modification, neuro-feedback, multimodal psychosocial treatment, school-based programs, memory improvement techniques, self-monitoring, and parental guidance. Only behavioral modification and neuro-feedback emerged as an effective intervention and showed statistically significant improvement.

In this year, a study was carried out to see the role of co-morbidity conditions; ODD/CD(Oppositional defiant disorder/Conduct Disorder) with ADHD in various domains of school functioning by Huang, Kao and Gau (2017).The study examined school functioning including various areas such as academics, attitude, social, problems and burden. Three groups were taken youth with ADHD+ODD/ CD, ADHD only and controls group. Three groups were analyzed by using appropriate statistical technique. The findings of the study indicated that children with ADHD displayed greater levels of impaired school functioning across different domains than youth controls with the worst overall school functions in youth with

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ADHD+ODD/CD. Whereas ADHD features were associated with multifaceted school dysfunction, but presence of ODD/CD showed no direct impact on academic performance, but contributed to impairment in social sphere and behavioral problems in classroom. The findings indicated that management of such problem behaviors enable the students to improve their deficient school grades and study also suggested that information should be gathered from all available resources for the assessment of functional impairments in such population.

Among the frequently practiced techniques in clinical psychology mindfulness therapy has an important place in this regime. Mindfulness has its roots in Buddhist philosophy and for more than 2000 years it has been practiced. The core and overt mission of mindfulness therapy is to lighten individuals having dysfunctional ways to react to situation and to facilitate the new alternative functional ways of responding. The Professor Kabat-Zinn, has brought mindfulness therapy into mainstream medicine founder and numerous researches has established the basis for improvements in physical and psychological symptoms and well-being of individuals.

Mindfulness: An art of attending the stimulus with positive attitude

Mindfulness can be defined as paying attention in a particular way: on purpose, in the present moment, and non-judgmental way. Mindfulness is the ability to direct the attention to experience as it unfolds, moment by moment, with open-minded curiosity and acceptance (Kabat-Zinn, 1996). Mindfulness assists individual to bring complete attention to the present experience on a moment to moment basis and suggests that mindfulness involves observing one's experiences with an attitude of acceptance and loving kindness (Marlatt and Kristeller, 1999). The state of being attentive to and be aware of what is happening in the present is mindfulness by Brown and Ryan (2003).

According to Bishop et al. (2004) Mindfulness described as a process of regulating attention to being aware to present experience and effectively relating to this with intent of curiosity, broad vision and acceptance.

Barendregt (2012) considered mindfulness as a beautiful mental factor; in mindfulness one observes the input from the senses in a non-reactive way. This sometimes may happen to us in life while window shopping, we just may look in a manner that is 'observing', but not 'reacting'.

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Mindfulness is about being alert and aware which involves tracking experience moment by moment without being limiting oneself by automatic responses, judgments and expectations and it is just opposite of being distracting or daydreaming.

Mindfulness practice is the mental orientation of mindfulness which enhances individual's mental emotional flexibility and clarity to deepen enjoyment of life furthermore helping adapting the life effectively (Davis, Fleming, Bonus, Baker, 2007).

Camody and Baer (2008) reported that it encompasses five skills: 1) acting with awareness, 2) observing, 3) describing, 4) non-reactivity to inner experience, 5) non-judging of inner experience" which represent a higher order of mindfulness factor.

Each of these mindfulness skills is also highly associated to other psychological processes which are further described by Baer et al. (2006) are acting with awareness, observing, describing, the non-judging and non-reactivity.

Elements of Mindfulness

Shapiro et al. (2006) proposed three primary elements as components in the process of mindfulness: attitude, attention and intention. The attitudinal component encompasses non-judgment, acceptance, trust, patience, non-striving, curiosity and kindliness mindfulness practice is grounded in particular attitudinal foundations. Bishop et al. (2004); Kabat- Zinn (1990); Shapiro et al. (2006) furthermore, the element of attention indicates focus, broad, sustained attention, and skills in switching attention from one stimulus to another. The third element of conscious intention extends from an intention to practice, the intentionality one brings to directing, sustaining or switching attention. Bishop et al. (2004) reported that this kind of intentional attention can be regarded as the self-regulation of attention.

The process of mindfulness element's i.e. attitudes, attention and intention all are interconnected reported by Shapiro et al. These elements of mindfulness inculcate the skill of de-centering one's perspective for one's experiences in a non-judgmental, objective and non-elaborative stance; witnessing or observing thoughts, sensations and emotions as transient phenomena. Furthermore, Baer (2003); Segal et al. (2002); Shapiro et al. supported the same notion that this considerably leads to clearly observe recognize and disengage from habitual patterns or mind states, and begin to respond more reflectively, rather than reactively.

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Mindfulness therapy enhances the ability to control disturb patterns of behavior and increase the psychological resources to better cope up with environmental and internal demands.

Need for the study

In the recent couple of years, it is observed that children are acquainted with new technology and electronic gazettes and their tendency of immediate need gratification lead to unhealthy behaviors. A murder of a child in school premise in India, it warrants parents and teachers to change the traditional pedagogy and make the school environment more conducive and congenial for students to facilitate their overall development. Mindfulness therapy has been incorporated into several treatment programs. The most common form of mindfulness intervention for adults found to be in 'the eight week course, which aims to reduce stress or to prevent depressive relapse. Mindfulness Based Cognitive Therapy recommended by the National Institute for Clinical Excellence (UK, 2009) especially for preventing depression relapse. Some other variants of this therapy found to be effective for chronic pain and stress-related disorders (Kabat-Zinn, Massion, Kristeller, & Peterson, 1992). Dialectical Behavior Therapy is method of choice for bipolar personality disorder (Koerner & Linehan, 2000). A range of interventions for children and young people have also been started and getting introduced in schools and in clinical contexts. It is the high time to develop some techniques to handle the impulsivity and attention difficulty in upcoming generation and also empirical investigation should be carried out to know the effectiveness of existing therapies. Therefore, the present study is conceived to know the role of Mindfulness therapy on while dealing hyperactivity among adolescents.

Objective of the study

The prime objective of the study was to study the efficacy of mindfulness therapy in managing hyperactivity of adolescents.

Hypothesis

There shall be significant impact of mindfulness therapy on hyperactivity of adolescents.

Tools used:

Socio-demographic Datasheet: The important and relevant socio-demographic details of the subjects were gathered from all the adolescents and their parents such as age, education, Socio-economic status.

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Conner's ADHD Rating Scale (3rd Edition): The Conner's ADHD Rating Scale is a thorough assessment of attention deficit/hyperactivity disorder and its most commonly associated problems in school-aged youth. This 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 range of 6-18.

It is available in both versions full length and short. The core areas covered are inattention, hyperactivity/impulsivity, learning disorders, peer relations, cognitive functions, and aggression. The parents were asked to rate the behavior of the child during the last month. The inter-rater reliability coefficients of the scale range from .52 to .94.

Mindfulness Attention Awareness Scale (Brown & Ryan, (2003)**:** The mindful attention awareness scale (MAAS) is a 15-item scale measures individual's general tendency to be attentive to the happenings of daily life. MAAS rated on a 6 point scale based on likert scale. Items describe being on automatic pilot, preoccupied, and inattentive and are reverse scored, so that higher scores represent higher levels of mindfulness. The MAAS has demonstrated good reliability, with Cronbach's alpha coefficients reported at .82 and .86and test-retest reliability of .81.

Sample size and Procedure

Sample: The sample of 33 adolescents with the age group of 13 to 16 years who were regular students of private schools manifesting symptoms of ADHD was taken. They 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 and problematic behavior. The primary mode of the sample selection was observation by teachers and research investigator which was further followed by parental interview and other tests. Three measures were taken Pre, Middle and Post. After data collection appropriate statistical tools were applied.

Results and Discussion

The present study is designed to assess the role of mindfulness therapy in managing hyperactivity of adolescents. 33 participants were recruited for the study.

Table 1 Scores of Hyperactivity obtained on three levels (N=33)

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Hyperactivity Level	Mean ± SD (N=33)	SEM
Base Line	9.00 ± 1.43	.25
Middle	7.96 ± 0.76	.13
Post	5.84 ±1.12	.19

N- Number of Participants; **M**- Mean; **SD**- Standard Deviation; **SEM**- Standard Error of Mean

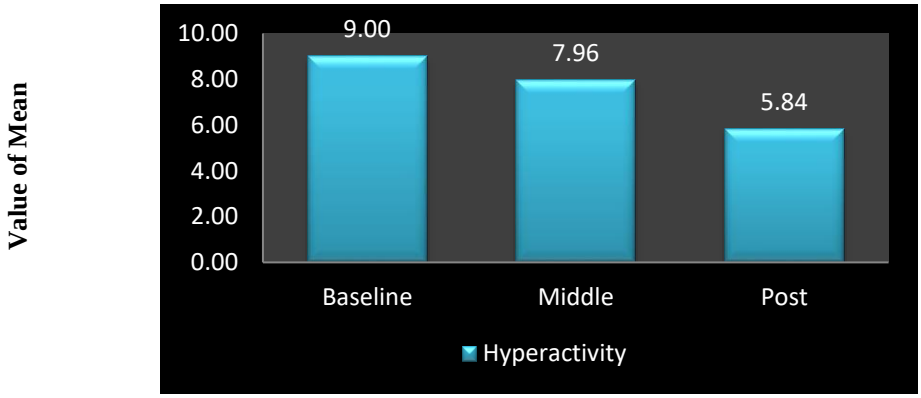

Figure 1 Graphical presentation of scores of the Hyperactivity

The scores obtained by the participants, Table No.01 showed significant reductions in the scores of hyperactivity from baseline (M=9.00, SD=1.43) to middle phase (M=7.96, SD=0.76) and further also a trend has been observed that reflects decreasing scores at the post-test (M=5.84, SD=1.12).

Table 2 Scores obtained on Hyperactivity (Paired t-values)

Pair	Paired Differences						
			95% Confidence Interval Level of the Difference				
	Mean	Std. Error of	Lower	Upper	t	df	Sig. (2 tailed)

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	Difference	Difference					
Pair 1	1.03	0.28	0.45	1.6	3.67	32	0.01
Pair 2	2.12	0.22	1.66	2.57	9.42	32	0.01
Pair 3	3.15	0.32	2.48	3.81	9.66	32	0.01

Note: Variable: Hyperactivity

Pair 1-Baseline and Middle

Pair 2- Middle and Post

Pair 3- Baseline and Post

The paired t- test findings of the Pair 1(baseline and middle) showed in Table No.2, indicated the mean difference in level of hyperactivity of 1.03[t(32)=3.67, p<.001] with a 95% confidence level ranging from 0.45 to 1.6. The findings at Pair 2(middle and post) reflected the mean difference of 2.12 [t (32) =9.42, p<.001] with a 95% confidence level ranging from 1.66 to 2.57. It is observed mindfulness training has the significant role in decreasing the hyperactivity level and improvement is noticed at Pair 3(baseline and post) with the mean difference of 3.15[t (32) =9.66, p<.001] with a 95% confidence level ranging from 2.48 to 3.81.

The present study establishes the ground that the mindfulness has remarkable potential in reducing the hyperactivity among the ADHD adolescents. The evidence supporting the potential benefits of mindfulness interventions with children and adolescents and further added by Goleman (2014) that the mindfulness assist in training those particular areas of the brain which are involved in reducing the activity level of ADHD along with this he also reported that ADHD medication does not have long lasting benefits. Thus mindfulness is an effective and an important treatment of hyperactive disorders. It has been noticed during assessment that the participants have difficulty in controlling the restlessness, undesirable behavior and impulses. The ADHD adolescents in the study found to be usually involved in the "automatic behaviour pattern" due to deficit in the self-regulatory skills. The result of the present research found to be consistent with the previous research that the mindful awareness practice (mindful sitting, mindful walking, mindful movement, mindful breathing etc) lessens the habitual response pattern and develops more of mindful choices and action. The mindfulness therapy calm downs

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body and mind thus reducing the restlessness and enhancing awareness and alertness of the present moment further building on self-regulatory abilities.

It was hypothesized that the mindfulness therapy would have significant impact on behavioral domain including (hyperactivity, conduct problems, aggression, peer relation, impulsivity, and aggression) of adolescents manifesting symptoms of ADHD. The hyperactive, impulsive behavior and conduct problems of adolescents reflected high scores on baseline which indicates motor excessiveness, social inappropriateness, interruptive behaviors, aggressiveness, oppositional behavior, failure to conform to rules. The post-test measures i.e. after six months showed that the participants of the present study learned to control impulses and monitor the target behavior. The scores revealed the improvement in hyperactivity by -35.11%, conduct problems by -60.74%, aggression by -65.24%, peer relation -35.11%, impulsivity by -64.66% and aggression by -43.21%. The ADHD adolescents with the practice of mindfulness based therapy demonstrated reduction in automatic habitual destructive behavior pattern and increase in mindful respond pattern. The mindfulness therapy calm downs body and mind thus reducing the restlessness and enhances awareness and alertness of the present moment. The ADHD adolescents became more aware about their impulses and develop better control over restlessness and immediate urges. Zylowska (2007) stated that the mindfulness training assist with the skill of paying attention to automatic processes. The hyperactivity and impulsivity was found to be significantly reduced with the application of mindfulness therapy. Shailini (2015) highlighted the beauty of Mindfulness training and stated that is very useful for distracted students and also advocated mindfulness training by making mindfulness training a integral part of law school curriculum. It will enhance the coping skills of students to effectively deal stress of study and especially demanding and complex situations.

Conclusion

The period of youth is full of positive energy and abundance power. The energy and power is needed to be channelized in the desired direction to shape the professional and academic career of teenagers. Hyperactivity becomes a hurdle to use this energy and strength optimally towards positive direction. It is often found that teacher and student himself/herself struggle with disciplinary issues results in poor and compromised educational environment. A mindfulness

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based therapy is found to be very effective in managing the hyperactivity of the students. Adolescents have a very poor control over emotions and surroundings and they are bit suggestible and prone to indulged in disturbing and unhealthy behaviors. This leads to impulsive, impatient, and easily distractible or difficulty in delaying gratification often prevents them from achieving their career goal. Mindfulness therapy helps in restoring the reservoir or replenishing the cognitive domain thus strengthening mental capacities, with better emotional balance, greater self-acceptance, increased feelings of well-being.

In mindfulness practice, it is taught to the client to perceive the events with nonjudgmental way and not to react towards situations. Client develops a decisive mind set about events happening around us and understands the feeling triggered by those events without reacting and getting involved into them. Such kind of approach assists one to step back from strong emotional reactions and resist impulsive actions.

The mindfulness based intervention of choice and also effective in controlling the hyperactivity this can be integrated in school, educational and clinical settings for the cultivation of positive emotions and promotion of positive personality growth of adolescents.

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