

## Chapter 9

# Mindfulness–Based Interventions in Attention Deficit Hyperactivity Disorder

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### ABSTRACT

*Attention Deficit Hyperactivity Disorder (ADHD) is the most prevalent neurodevelopmental disorder in children and adolescents. It is marked with deficits in behavioral symptoms of hyperactivity/impulsivity along with cognitive deficits in the domain of attention, self-regulation, and executive function. Mindfulness-Based Interventions (MBI) have come up as an intervention of choice for various psychological disorders such as anxiety disorder, depression, substance abuse, and eating disorder. Mindfulness at its core is paying non-judgmental attention to the present moment. Despite the robust evidence for both of the treatment modalities available, the cognitive symptoms of ADHD still progress towards adulthood affect the individual's achievement and overall psychosocial adjustment. A number of recent studies have found preliminary evidence about the effectiveness of MBI as an adjunct treatment in ADHD. The chapter will discuss the evidence-based interventions that incorporate mindfulness.*

### INTRODUCTION

Attention Deficit Hyperactivity Disorder (ADHD) is one of the most common developmental disorder of childhood, with a tendency to persist into adulthood. Diagnostic and Statistical Manual of Mental Disorders-5 (DSM-5), describes ADHD as a disorder of inattention and/or hyperactive/impulsive behaviour which is inconsistent with developmental level and also causes impairment in socio-occupational functioning (Chimiklis et al., 2018). For a diagnosis of ADHD, it is necessary for symptoms to be present prior to age 12, persist for at least six months with significant impairment in socio-occupational functioning.

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## ***Mindfulness-Based Interventions in Attention Deficit Hyperactivity Disorder***

The worldwide prevalence of ADHD is 5.29% as estimated by a systematic review and meta-analysis (Polanczyk et al., 2007). Children or adult with ADHD generally present with following clinical features:

**Hyperactivity:** Hyperactivity implies the inappropriate excessive motor activity including restlessness, fidgeting, and appearing to be “driven by a motor.” These behaviours are often first noticed in the initial years of development, but can be normal phenomenon before age four. The level of hyperactivity usually decreases with age, however, the inner sense of restlessness may continue into young adult life. Children with ADHD display sustained levels of high activity in different settings such as home, school, and playgroup.

**Impulsivity:** Impulsive actions occur without forethought about consequences and may be associated with desire for immediate rewards or to avoid delay. Impulsivity might be evident when the child engages in dangerous activities, yells out in class, or interrupts or intrudes others during games or conversation. Symptoms of impulsivity can persist into adulthood, even after hyperactive symptoms have diminished.

**Attentional Difficulties:** Inattention includes difficulty sustaining focus, poor organizational skills, and being easily distracted by extraneous stimuli (Posner, 1995). The symptoms of inattention often become prominent in primary school when the child is approximately 8 to 9 years old. Attentional difficulties are commonly seen in routine settings wherein the children with ADHD must sit and do repetitions task with low levels of reinforcement and external motivation.

## **Assessment Scales for ADHD**

Commonly used outcome measures in most of the studies are described in table 1.

*Table 1. Detailed description of rating scales for ADHD*

Name of rating scales	Author/year	Age range	Items	Description
Behaviour assessment system for children (BASC-2)	Kamphaus, 2014	2 years - 21 years	161	Integrated assessment system that includes various forms such as parent form, teacher form, self-report etc. It utilizes variety of methods and modes to gather information about a children's emotions and behaviour to generate an interpretative profile
Connors - 3P and Connors 3 -SR	Connors, 2008	6 years – 18 years	108	It assesses ADHD and common co-morbid problems in children and adolescents as present in different settings such as home, social, and school
Youth Self Report (YSR)	Ivarsson et al., 2002	11 years - 18 years	112 items	Self-report measure designed for adolescents to assess the problem behaviour and behavioural competency
Child behaviour checklist (CBCL)	Achenbach, 1999	2 years -18 years	113 items	Most widely-used parent report measure in child psychology for evaluating the problem behaviours and emotional problems in children and adolescents

## **MINDFULNESS-BASED INTERVENTION IN ADHD**

Mindfulness-Based Intervention (MBI) incorporate the components of non-judgemental attention to the present moment, based on Buddhist tradition of Zen meditation. These interventions focus on recogniz-

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