# Chapter 5
# Adolescents and Attention Deficit Hyperactivity Disorder (ADHD): Symptoms, Causes, Assessment, and Treatment

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## ABSTRACT

*This chapter attempts to individually understand the concept of adolescence and ADHD before it combines to the understanding of the progression of ADHD as a neurodevelopmental and behavioural disorder moving through the lifespan in different formats/symptoms. This understanding would provide the clinicians and academicians clarity to follow the golden rule of 'early diagnosis early intervention' by identifying the progressive nature in terms of genetic, biochemistry, psycho-social, and personality aspects maintaining the disorder. Finally, this chapter would also provide an overview about the possible interventions and treatment plans available and briefly discusses the recent issues and trends throughout the chapter.*

## INTRODUCTION

The two main components namely attention deficit/inattention and hyperactivity/impulsivity marks the disorder of ADHD. The age of adolescents ascertained by the standards of World Health Organization (WHO) is between the ages of 10-19 years(Encyclopedia Britannica). It is a phase when an individual tends to undergo overall growth and development in terms of biological (puberty, primary and secondary sexual characteristics, voice box modulation etc.); cognitive (understanding and possess developed meanings, preparing to gradually become independent etc.); behavioural (levels of energy, coping mechanisms etc); social (group formations, affiliation, social norms, traditions and folklores etc.). It is considered

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to be a mid-phase wherein an individual is learning and experiencing the transitional roles from childhood to adulthood through various means. In general, the age of adolescence from epidemiological and psychological perspectives is indicative of engaging into increased behaviours involving risk-taking, high impulsivity, substance abuse, self-harming tendencies (Hafner&An Der, 1997), gradually moving towards marked mental health issues such as affective disorders, anxiety disorders, and personality disorders etc. (Goodwin, 2009; Park et al, 2006) resulting in lack of resources to deal effectively, poor self-efficacy, lack of life skills etc. (Young et al, 2005).

Attention Deficit Hyperactivity Disorder is commonly abbreviated and denoted as ADHD in the world. ADHD is a neurodevelopmental disorder (Sparrow &Erhardt, 2014) as well as classified under behavioral disorder (International Classification of Diseases- ICD 10). The defining subtypes according to DSM-IV (Diagnostic Statistical Manual- IV edition) in ADHD classification are: Hyperactive/impulsive, inattention and combined; dimensionally they have been classified under 'inattention and hyperactive'. In ICD-10 they have been coded at F90 as 'Hyperkinetic disorders'. Global prevalence has been estimated to be around 2-7% (Sayal et al, 2018). As per the DSM-IV manual the prevalence in males is higher than the females with the ratio of one male in every three males compared to one female in every nine females, symptoms usually presenting by the age of 3-6 years. The review paper by the same authors Sayal et al (2018) have summarized that the recent trends are indicative of increasing prevalence in female sample. Various causal factors have been attributed to the manifestation of symptoms in patients with ADHD diagnosis but no single causal factor can be isolated and held responsible. Thus understanding of bio-psycho-social perspective to any disorder is vital in planning of careful and appropriate assessment and intervention. The initial and basic medical model to any disorder/illness has been criticized and the need for understanding the psychosocial perspectives has been underlined. In the forthcoming headings, understanding of ADHD specifically in the context of adolescents' age range has been addressed.

## Lifespan Perspective-ADHD in Adolescence

Till recent years, ADHD was considered to be a childhood behavioral disorder and not much scientific interest was laid to the age related transactional changes in ADHD symptoms (Becker & Barley, 2019). But, recently the rising incidents of road accidents, reckless driving(Barkley, 2015), impulsivity, self-harming tendencies and other core personality traits have drawn everyone's attention towards the developmental psychopathology perspective of ADHD (Hinshaw, 2017).

The developmental psychopathology model/framework has focused on the interaction between the predisposing, precipitating and perpetuating factors of the disorder which provides clarity in the development of symptoms and explains the causation of the disorder in multi-modal format. The guiding principles of the framework includes delineating between normalcy and difficulty and disordered state, continuities and discrepancies or gaps, risk factors, various process models "reciprocal, transactional, ontogenic" and various vulnerabilities levels (Pg. 8-12; See Becker & Barkley, 2019 for further details).

As obsessive-compulsive disorder has been defined as a heterogeneous group of disorders, similarly due to marked transitions in symptoms and their manifestations as the growth and development occurs in individuals, ADHD has also been classified as heterogeneous group of disorders wherein there is a possible change in manifestation of hyperactivity in childhood to increased impulsivity, fidgety, inattention during adolescence and adulthood (Marsh & Williams, 2004).

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