

**ENLIGHTENING ANGANWADI TEACHERS AND  
PARENTS OF PRESCHOOLERS ON ATTENTION  
DEFICIT HYPERACTIVE DISORDER (ADHD)**

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**2015**

**CERTIFIED AS A BONAFIDE RESEARCH WORK**

SIGNATURE OF HEAD OF THE DEPARTMENT

SIGNATURE

OF THE GUIDE

## **DECLARATION**

*I hereby declare that this research work entitled “**Enlightening Anganwadi Teachers and Parents of Preschoolers on Attention Deficit Hyperactive Disorder (ADHD)**” is a bonafide record of research work done by me during the course of research.*

Place:

**SUKANYA. S. R**

Date:

## **CERTIFICATE**

*I hereby certify that the dissertation entitled “**Enlightening Anganwadi Teachers and Parents of Preschoolers on Attention Deficit Hyperactive Disorder (ADHD)**” prepared and submitted by Miss Sukanya.S.R, is her original investigation, which she carried out under my guidance and supervision.*

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# **INTRODUCTION**

# CHAPTER I

## INTRODUCTION

Attention Deficit Hyperactive Disorder is a prevalent, chronic, and pervasive childhood disorder characterized by developmentally inappropriate activity level, impulsivity, and inability to sustain attention and concentration. Core symptoms of the disorder are associated with impairment in multiple domains of functioning and often coexist with other psychiatric disorders, the most prevalent being oppositional defiant disorder, conduct disorder, depression, and anxiety disorders. Concerns have been expressed about the over diagnosis of ADHD, an upsurge in prescription of stimulant medication, and wide variations in practice patterns related to diagnosis and treatment of children with ADHD among primary care providers. (Elsevier, 2008)

Medical research now suggests that Attention Deficit Hyperactive Disorder (ADHD) affects different people in different ways and to different degrees of severity. There are a number of definitions but the following characteristics, generally accepted as the most common, are acknowledged in most definitions. The characteristic features of children and adolescents with attention deficit hyperactivity disorder (ADHD) are excessive motor activity, inattention, and impulsiveness. The contemporary concept of ADHD as defined in the DSM-IV-TR is relatively new. However, an analysis of historical literature suggests that children presenting with symptoms of inattention, hyperactivity, and impulsivity have previously been described by several authors during the last 200 years. The clinical characterizations, underlying concepts, and nomenclature of the described dysfunctions have changed over the time. Many of the historical descriptions are, however, consistent with the modern diagnostic criteria for ADHD. (American Psychiatric Association, 2000)

Attention-deficit hyperactivity disorder (ADHD) is characterized by a pattern of diminished sustained attention and higher levels of impulsivity in a child or adolescent than expected for someone of that age and developmental level (Sadock & Sadock, 2007). Diagnostic and statistical manual of mental disorders (DSM-IV TR) (Frances, Pincus & First, 2000) report that the diagnosis of ADHD is based on the consensus of experts that three observable subtypes: inattentive, hyperactive/impulsive, or combined are all manifestations of the same disorder. To meet the criteria for the diagnosis of ADHD, the symptoms must be present before the age of seven years. Srivastava & Shinde (2004) showed that the prevalence of ADHD is around one per cent of total general population whereas, 3-3.5 percent of children suffered with ADHD. It is estimated that ADHD is found in three to five percent of the school-age population, affecting three times as many males as females (Gaub & Carlson, 1997; Gershon, 2002). This translates into about one student in every classroom (Malhi & Singhi, 2000), (Ministry of Education, 2006). Children with ADHD are usually inattentive, impulsive, and hyperactive, and they may have a variety of school-related problems including difficulty in paying attention, following directions, staying seated, listening and completing assignments and often exhibit social problems including poor peer relations (Barkley, 1998).

According to Cooper and Bilton (2002), Attention Deficit Hyperactive Disorder (ADHD) is a medical diagnosis that is applied to children and adults who are experiencing significant behavioural and cognitive difficulties in important aspects of their lives. These difficulties can be attributed to problems of impulse control, hyperactivity and inattention. It is believed that these problems are caused primarily by dysfunctions in the frontal lobes of the brain. The delay is most pronounced in brain regions involved in thinking, paying attention, and planning. The outermost layer of the brain, the cortex, shows delayed maturation overall, and a brain structure important for proper communications between the

two halves of the brain shows an abnormal growth pattern. These delays and abnormalities may underlie the hallmark symptoms of ADHD and help to explain how the disorder may develop.

Children with ADHD are always 'on the go'. They:

- often talk incessantly
- frequently blurt out in appropriate comments
- often act impulsivity
- rarely pause to think before they act
- sometimes endanger themselves by taking unnecessary risks

The most common behaviour disorder in children is ADHD. The main symptoms are impaired attention and hyperactivity, evidence in more than one situation. The symptoms of inattention are characterized by getting easily distracted by extraneous stimuli, making careless mistakes in school work, having difficulty in maintaining attention even in play activities, often losing things like toys, books pencils or school bag or school bag and even forgetting to do the daily activities. The symptoms of hyperactivity are often manifested by fidgeting with hands or feet, leaving the seat in classroom while the teacher is taking class, talking excessively and running about excessively.

These children often show impulsive behaviour characterized by blurting out answers, interrupting others during conversation and having difficulty awaiting turn. Many children with ADHD have associated learning difficulty. It is usually the parents who first suspect that there is something different about their child's behaviour. Many parents are embarrassed by their child's behaviour and often come to believe that they are largely to blame. Research in recent years has, however suggested that the bad or challenging behaviour displayed by some

children is not the fault of their parents or the children themselves. It may be caused by inactivity in the areas of the brain that control concentration and impulsive behaviour.

The essential features of Attention Deficit Hyperactive Disorder is a persistent pattern of inattention and/or hyperactivity, impulsivity that is more frequent and severe than is typically observed in individuals at a comparable level of development (American Psychiatric Association, 1994). ADHD stands for type of behavioural disorder characterized by the significant deficit and deficiencies in one's attention behaviour devoid of necessary self-restraint. Various authors and researchers have provided their own conception.

Children with Attention Deficit Hyperactivity Disorder (ADHD), a condition characterized by inattention, over activity, and impulsivity, are most frequently identified and treated in primary school. Population studies indicate that five percent of children worldwide show impaired levels of attention, as well as hyperactivity. Boys are classified with ADHD approximately twice as frequently as girls and primary school age children approximately twice as frequently as adolescents. ADHD symptoms exist on a continuum in the general population, and are considered as a 'disorder' to a greater or lesser degree depending on the source of identification, perception of extent of functional impairment, diagnostic criteria, and the threshold chosen for defining a 'case.' The developmentally excessive levels of inattention, over activity, and impulsivity characteristic of ADHD are present from an early age. However, preschoolers with early signs of ADHD may also have co-occurring oppositional noncompliant behaviours, temper tantrums, and aggression that overshadow symptoms of inattention and over activity and confound the diagnosis. These behaviours may be given the more general label of a Disruptive Behaviour Disorder (DBD), which include Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD) as well as ADHD.

**Hyperactivity:** The term hyperactive is often confusing since, for some, it suggests a child racing around non-stop. A boy with ADHD playing a game, for instance, may have the same level of activity as another child without the syndrome. But when a high demand is placed on the child's attention, his brain motor activity intensifies beyond the levels of the other children. In a busy environment, such as a classroom or a crowded store, children with ADHD often become distracted and react by pulling items off the shelves, hitting people, or spinning out of control into erratic, silly, or strange behaviour.

**Impulsivity and Temper Explosions:** Even before the "terrible twos," impulsive behaviour is often apparent. The toddler may gleefully make erratic and aggressive gestures, such as hair pulling, pinching, and hitting. Temper tantrums, normal in children after age 2, are usually exaggerated and not necessarily linked to a specific negative event in the life of a child with ADHD. One of the most painful events a parent may experience is an abrupt and aggressive attack that may occur after cuddling a young child with ADHD. Often this reaction seems to be caused not by anger, but by the child's apparent inability to endure overstimulation or displays of physical affection.

**Attention and Concentration:** Children with ADHD are usually distracted and made inattentive by an over stimulating environment. They are also inattentive when a situation is low-key or dull. In contrast, they may exhibit a kind of "super concentration" to a highly stimulating activity. Such children may even become over-attentive -- so absorbed in a project that they cannot modify or change the direction of their attention.

**Impaired Short-Term Memory:** Many doctors now believe that an essential feature in ADHD, as well as in learning disabilities, is an impaired working memory. People with ADHD cannot hold groups of sentences and images in their mind long enough to extract organized thoughts. They are not necessarily inattentive. Instead, a patient with ADHD may

be unable to remember a full explanation, or unable to complete processes that require remembering sequences, such as model building. In general, children with ADHD are often attracted to activities that do not tax the working memory, or produce distractions. Children with ADHD have no differences in long-term memory compared with other children.

**Inability to Manage Time:** Children with ADHD may have difficulties being on time and planning the correct amount of time to complete tasks.

**Lack of Adaptability:** Children with ADHD often have a very difficult time adapting to even minor changes in routines, such as getting up in the morning, putting on shoes, eating new foods, or going to bed. Any shift in a situation can precipitate a strong and noisy negative response. Even when they are in a good mood, they may suddenly shift into a tantrum if met with an unexpected change or frustration. These children can closely focus their attention when directly cued to a specific location, but they have difficulty shifting their attention to an alternative location.

**Hypersensitivity and Sleep Problems:** Children with ADHD are often hypersensitive to sights, sounds, and touch. They may complain excessively about stimuli that seem low key or bland to others. Sleeping problems usually occur well after the point when most small children sleep through the night. In one study, 63 percent of children with ADHD had trouble sleeping.

It is usually the parents who first suspect that there is something different about their child's behaviour. Many parents are embarrassed by their child's behaviour and often come to believe that they are largely to blame. Attention Deficit Hyperactive Disorder stands for a type of behavioural disorder characterized by the significant deficit and deficiencies in one's attention behaviour devoid of necessary self-restraint. Various authors and researchers have

provided their own conception. Children with ADHD have significant problems with behavioural disinhibition that affect their peer relationships. Behaviour therapies for ADHD aim to help parents and teachers better manage the behavioural problems of these children. Evidence-based treatments for attention-deficit hyperactivity disorder in children include parent training and behavioural interventions. Behaviour therapy alone may be useful for treating less pronounced ADHD symptoms.

As an alternative to biological explanations of ADHD, some researchers have suggested that hyperactivity is environmentally caused. Diverse social and familial stressors such as poverty, low levels of education, marital discord and disruption, household disorganization, and inept parenting have been associated with ADHD (Campbell, 2000). Much research has focused on parent-child relation and has found that the mothers of hyperactive children generally are more controlling and intrusive and less affectionate and reinforcing than the mothers of normal children. However, most investigators think that, rather the cause of a child's behaviour, excessive parental control and lessened affectional response are likely reactions to that behaviour.

ADHD is a development disorder of self control. It consists of problem with attention span, impulse control, and activity level. It is not just a temporary state that will be outgrown, a trying but normal phase of childhood. It is not caused by parental failure to discipline or control the child, and it is not a sign of some of inherent 'badness' in the child. ADHD is a real-disorder, a real problem, and often a real obstacle. It can be heart breaking and nerve racking (Barkley, 2000). Clinical research and expert consensus guidelines over the past decade have increasingly clarified the most effective approaches to diagnosis and treatment of the disorder. (Elsevier, 2008)



Nearly every mainstream medical, psychological, and educational organization in the United States long ago concluded that Attention-Deficit/Hyperactivity Disorder (ADHD) is a real, brain-based medical disorder. These organizations also concluded that children and adults with ADHD benefit from appropriate treatment. ADHD is a non-discriminatory disorder affecting people of every age, gender, IQ, religious and socio-economic background.

Health experts say that ADHD is the most common behavioral disorder that starts during childhood. However, it does not only affect children - people of all ages can suffer from ADHD. Psychiatrists say ADHD is a neurobehavioral developmental disorder. An individual with ADHD finds it much more difficult to focus on something without being distracted. He has greater difficulty in controlling what he is doing or saying and is less able to control how much physical activity is appropriate for a particular situation compared to somebody without ADHD. In other words, a person with ADHD is much more impulsive and restless. Health care professionals may use any of the following terms when describing a child who is overactive and has difficulty concentrating - attention deficit, attention deficit hyperactivity disorder, hyperkinetic disorder, hyperactivity. ADHD in children is completely different from normal childhood excited and boisterous behaviour. Many children, especially very young ones, are inattentive and restless without necessarily being affected by ADHD.

In 2011, the Centers for Disease Control and Prevention reported that the percentage of children in the United States who have ever been diagnosed with ADHD is now 9.5 percent. Boys are diagnosed two to three times as often as girls. In order for a diagnosis of ADHD to be considered, the person must exhibit a large number of symptoms, demonstrate significant problems with daily life in several major life areas, and have had the symptoms for a minimum of six months. What makes ADHD different from other conditions is that the

symptoms are excessive, pervasive, and persistent. That is, behaviours are more extreme, show up in multiple settings, and continue showing up throughout life.

The prevalence rate of attention deficit hyperactivity disorder (ADHD), a condition almost always associated with poor academic performance, was 11.3 percent among primary school children; behavioral difficulties were found in 36.11 percent of the children with ADHD (Panicker, 2013). Attention deficit Hyperactivity disorder (ADHD) is characterised by high levels of inattention, hyperactivity and impulsivity that are present before the age of seven years and seen in a range of situations which are inconsistent with the child's developmental level. Children with ADHD have significant impairments in behaviour and can experience long-term adverse effects on academic performance, vocational success, and social development. This in turn will have a profound negative impact on the individuals, families and society. Evidence-based treatments for attention-deficit hyperactivity disorder in children include psychosocial interventions like parent training and behavioural therapies. Behaviour therapy alone may be useful for treating mild ADHD symptoms. Attention deficit hyperactivity disorder can be of 3 types: Predominantly hyperactive type, predominantly inattentive type or combined type. The attention difficulties in children include elements of distraction, forgetfulness, disorganization, proneness to lose things, avoidance of tasks requiring concentration such as school work.

## **1.1 Relevance of the study**

ADHD is one of the most common disorders of childhood. The people in the rural areas are familiar with some of the symptoms that occur in ADHD, and are not aware of the details and remedies of ADHD which is indeed affecting the lives of children who are victims of it. So it was thought that parents and teachers of such areas if enlightened on the varied details of ADHD, would be beneficial as it may result in early detection and intervention thereby leading to the betterment of the lives of such children. Hence the study titled “Enlightening Anganwadi teachers and Parents of Preschoolers on Attention Deficit Hyperactive Disorder (ADHD)” is taken up for the investigation.

## **1.2 Aim**

To enlighten anganwadi teachers and parents of preschoolers on Attention Deficit Hyperactive Disorder

## **1.3 General objective**

- To check the level of awareness of the selected sample on Attention Deficit Hyperactive Disorder

## **1.4 Specific Objective**

- To prepare a booklet on Attention Deficit Hyperactive Disorder
- To disseminate aspects and teach the various aspects related to ADHD to the selected sample and check the level of awareness

# **REVIEW OF LILITERATURE**

## **CHAPTER II**

### **REVIEW OF LITERATURE**

The literature is reviewed to bring clarity and focus to the research objectives, to improve methodology, broaden the researcher's knowledge and to contextualize the findings. The study titled "Enlightening Anganwadi Teachers and Parents of preschoolers on Attention Deficit Hyperactive Disorder (ADHD)" has been reviewed under the following subheadings:-

2.1 Meaning and Definition of term ADHD

2.2 Historical Background of ADHD

2.3 Clinical Context of ADHD

2.4 Common Misconceptions about Children with ADHD

2.5 Scientific History of Hyperactivity

2.6 Behaviour Therapy and Parent Training in ADHD

2.7 Epidemiology of ADHD in School-age Children

2.8 A Comparison of Children Affected by Prenatal Alcohol Exposure and ADHD

#### **2.1 Meaning and Definition of term ADHD**

According to Cooper and Bilton (2002), Attention Deficit Hyperactive Disorder (ADHD) is a medical diagnosis that is applied to children and adults who are experiencing significant behavioural and cognitive difficulties in important aspects of their lives. These difficulties can be attributed to problems of impulse control, hyperactivity and inattention. It is believed that these problems are caused primarily by dysfunctions in the frontal lobes of the brain. The delay is most pronounced in brain regions involved in thinking, paying attention, and planning. The outermost layer of the brain, the cortex, shows delayed maturation overall, and a brain structure important for proper communications between the

two halves of the brain shows an abnormal growth pattern. These delays and abnormalities may underlie the hallmark symptoms of ADHD and help to explain how the disorder may develop.

The contemporary concept of Attention Deficit Hyperactivity Disorder (ADHD) as defined in the DSM-IV-TR (American Psychiatric Association 2000) is relatively new. Excessive hyperactive, inattentive, and impulsive children have been described in the literature since the nineteenth century. Some of the early depictions and etiological theories of hyperactivity were similar to current descriptions of ADHD. Detailed studies of the behaviour of hyperactive children and increasing knowledge of brain function have changed the concepts of the fundamental behavioural and neuropathological deficits underlying the disorder.

## **2.2. Historical Background of ADHD**

Attention Deficit Hyperactivity Disorder (ADHD) is a common neurobehavioural disorder most commonly diagnosed in children. According to the Centers for Disease Control and Prevention, the average age at diagnosis is 7. Boys are more than twice as likely to be diagnosed with ADHD than girls. Adults can develop symptoms and be diagnosed as well. It was originally called hyperkinetic impulse disorder. It wasn't until the late 1960s that the American Psychiatric Association (APA) formally recognized ADHD as a mental disorder. ADHD was first mentioned in 1902. British paediatrician Sir George Still described "an abnormal defect of moral control in children." He found that some affected children could not control their behaviour the way a typical child would, but they were still intelligent. The APA issued the first "Diagnostic and Statistical Manual of Mental Disorders" (DSM) in 1952. This manual listed all of the recognized mental disorders. It also included known causes, risk factors, and treatments for each condition. Doctors still use an updated version today.

The contemporary concept of attention deficit hyperactivity disorder (ADHD) as defined in the DSM-IV-TR (American Psychiatric Association 2000) is relatively new. Excessively hyperactive, inattentive, and impulsive children have been described in the literature since the nineteenth century. Some of the early depictions and etiological theories of hyperactivity were similar to current descriptions of ADHD. Detailed studies of the behaviour of hyperactive children and increasing knowledge of brain function have changed the concepts of the fundamental behavioural and neuropathological deficits underlying the disorder.

The APA did not recognize ADHD in the first edition. A second DSM was published in 1968. This edition included hyperkinetic impulse disorder for the first time. The APA released a third edition of the DSM (DSM-III) in 1980. They changed the name of the disorder from hyperkinetic impulse disorder to Attention Deficit Disorder (ADD). Scientists believed hyperactivity was not a common symptom of the disorder. This listing created two subtypes of ADD: ADD with hyperactivity, and ADD without hyperactivity.

The APA released a revised version of the DSM-III in 1987. They removed the hyperactivity distinction and changed the name to Attention Deficit Hyperactivity Disorder (ADHD). The APA combined the three symptoms into a single type and did not identify subtypes of the disorder.

The APA released the fourth edition of the DSM in 2000. The fourth edition established the three subtypes used by healthcare professionals today:

- combined type ADHD
- predominantly inattentive type ADHD
- predominantly hyperactive-impulsive type ADHD

ADHD cases began to climb significantly in the 1990s. There may be a few factors behind the rise in diagnoses:

- doctors are able to diagnose ADHD more efficiently
- more parents are aware of ADHD and are reporting their children's symptoms
- more children are actually developing ADHD

More and more medications to treat the disorder became available as the number of ADHD cases rose. The medications also became more effective at treating ADHD. Many have long-acting benefits for patients who need relief from symptoms for longer periods. Attention deficit hyperactivity disorder (ADHD) is characterized by fidgeting, decreased attention span, and difficulty finishing tasks. According to the National Institutes of Health, ADHD afflicts 3 to 5 percent of children in the United States. Many of those affected carry symptoms through adulthood.

Children with Attention Deficit Hyperactivity Disorder (ADHD), a condition characterized by inattention, overactivity, and impulsivity, are most frequently identified and treated in primary school. Population studies indicate that five percent of children worldwide show impaired levels of attention, as well as hyperactivity. Boys are classified with ADHD approximately twice as frequently as girls and primary school age children approximately twice as frequently as adolescents. ADHD symptoms exist on a continuum in the general population, and are considered as a 'disorder' to a greater or lesser degree depending on the source of identification, perception of extent of functional impairment, diagnostic criteria, and the threshold chosen for defining a 'case.' The developmentally excessive levels of inattention, overactivity, and impulsivity characteristic of ADHD are present from an early age. However, preschoolers with early signs of ADHD may also have co-occurring



oppositional noncompliant behaviours, temper tantrums, and aggression that overshadow symptoms of inattention and overactivity and confound the diagnosis. These behaviours may be given the more general label of a Disruptive Behaviour Disorder (DBD), which include Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD) as well as ADHD. If not already identified by an early age, preschool youngsters with ODD frequently meet criteria for ADHD by grade school.

Although anecdotally and in stories characters with ADHD-like behaviours are described much earlier, the first clinical description of the syndrome was presented by Sir George Frederick Still in 1902. In a series of lectures subsequently published in *The Lancet*, he describes children, more often boys than girls, who display ‘an abnormal capacity for sustained attention causing school failure, even in the absence of intellectual retardation’. He provides virtually a textbook description of ADHD children: his assessment and interpretations perhaps influenced and obscured slightly with other conditions now categorized separately and, in keeping with the understanding of the times, attributed to “defects of moral control.” He presents his observations of these children under different social conditions and environments, and enlarges on the limitations and impairments they experience as a result. (Eisenberg, 2007)

### **2.3 Clinical Context of ADHD**

Population studies identify that approximately five percent of children worldwide show impaired levels of attention, as well as hyperactivity. Boys are classified with ADHD approximately twice as frequently as girls and younger children approximately twice as frequently as adolescents. ADHD symptoms exist on a continuum in the general population, and are considered as a ‘disorder’ to a greater or lesser degree depending on the source of identification (e.g., parent or teacher), including extent of functional impairment, diagnostic

criteria, and the threshold chosen for defining a 'case. As alluded to in the preceding section, the cultural and situational contexts are also influential in case identification, largely through the responses of parents and teachers who answer the questions about symptoms and impaired functioning. Therefore, formal diagnostic criteria such as the DSM-IV include presence of impairment across settings, for example both at home and at school. There is increasing interest in identifying and treating very young children, those in preschool, in order to ameliorate the burden on child and family as early as possible and thereby diminish the later development of social and academic repercussions.

Clinically significant ADHD is often associated with concurrent oppositional and aggressive behaviours, anxiety, low self-esteem, and learning disabilities. Symptoms generally interfere with academic and behavioural functioning at school, and may also disrupt family and peer relationships. ADHD begins before children enter school although it is most commonly identified and treated in primary school, at age 7 to 9 years. In the preschool age group, ADHD is characterized not only by impairment in attention span, excessive impulsivity, and over activity, but also is frequently accompanied by additional disruptive behaviour symptoms, including severe temper tantrums, demanding, uncooperative behaviour, and aggressiveness. While levels of symptoms decrease with age, the majority of children with ADHD continue to show impairment relative to same-age peers throughout adolescence and into adulthood. An estimate of prevalence of ADHD among adults worldwide is 2.5 percent. (Armstrong, 2008)

Children with ADHD are at risk for poor adolescent outcomes including decreased high school completion, early substance use, increased driving infractions, early parenthood, increased contact with the law, and the onset of concurrent psychiatric disorders. Both retrospective studies and prospective longitudinal studies over long time periods face challenges in documenting outcomes and controlling for recall bias. Comparisons of treated

versus untreated individuals can be hard to interpret as both known and unknown factors play a role over the developmental spectrum from preschool to young adulthood. The natural history of those with ADHD, in comparison to those not meeting the diagnostic criteria for ADHD, remains poorly documented as standardized diagnostic criteria and methods of investigation have been in existence for a relatively short time. Not knowing the natural history of the disorder complicates interpretation of treatment extension studies. Despite these limitations, it is timely to examine the current literature to see what has been accomplished and to consider directions for future research. Outcomes of interest for these studies include: persistence of ADHD, new onset of psychiatric and substance use disorders, as well as educational, occupational, and social functioning outcomes. (Boyle, 1999)

Over the past several decades, rates of identification and treatment for people with ADHD have increased as documented by population-based studies using health administrative databases. In some cases, small-area variation in prescriptions has been linked to specific physicians, suggesting that increases in identification may be linked with changes in practice patterns rather than an increase in the underlying endemic prevalence of the disorder. In fact, the underlying prevalence of the disorder in children appears to have been relatively stable since the 1980s, to the extent that it has been measured using identical research methods. In the past 10 years, increases in identification and treatment have occurred primarily among girls and older children consistent with changes in clinical guidelines. Increases in off-label prescription of psychotropic medications for very young children have also been noted, presumably for preschoolers identified at high risk for ADHD because of disruptive behaviour.

By 1996, at least 40 percent of children referred to outpatient child psychiatry providers were diagnosed with ADHD. According to the Centers for Disease Control, 4.4 million youth between the ages of 4-17 have been diagnosed with Attention-

Deficit/Hyperactivity Disorder. The DSM IV-TR suggests that the prevalence rate of ADHD in children is 3 percent to 7 percent and 2 percent to 5 percent in adults. Using these prevalence rates it can be estimated that in a classroom of 25 to 30 children, at least one of those children will have ADHD. As of 2003, approximately 2.5 million young people were being treated with medication for ADHD symptoms. Prescription medication rates for ADHD are increasing in usage dramatically in the United States, with certain geographical areas tripling or quadrupling the number of prescriptions written ten years ago. Although increasing medication rates may be related to improved awareness and diagnosis, some professionals have different theories. Some researchers speculate that increasing ADHD prevalence and treatment rates may be related to changes associated with living in the digital age, such as decreased levels of physical activity and less exposure to the natural environment, which is thought to lead to increased amounts of restless and impulsive behaviour

Boys are diagnosed with ADHD three times more often than girls and adult males are diagnosed more often than adult females. Males of all ages tend to display, by far, more hyperactivity than females and slightly more symptoms of inattention than women. Approximately 10 percent of all males and 4 percent of females have been diagnosed with ADHD. The difference in prevalence rates between males and females is an interesting phenomenon. Not only do boys tend to be more often hyperactive, but boys who are inattentive often play around. In contrast, girls who are inattentive tend to daydream. These tendencies may at least partly explain why more males are diagnosed than females. However, it is not really clear whether there is a true gender-based difference in genetic susceptibility to ADHD, or if females are simply much less likely to be diagnosed than men. Research is being conducted to try to determine the source of these differences.

## **2.4 Common misconceptions about children with ADHD**

A very common misconception is that ADD or ADHD is not a real disorder. Over the last hundred years it has been shown that it is a chronic disorder that negatively affects a person's social, emotional, academic and work function. It is proved to be a disorder due to the fact that when some children have a higher rate of ADHD they have higher risks of being hospitalized (DuPaul and White). Carasco, a teacher who deals with children diagnosed with ADD or ADHD states that "when most people think of children with ADD or ADHD it is often associated with all children being hyper when really it deals with them being easily distracted or restless and fidgety." As children grow up and they are treated correctly it is possible for them to outgrow ADHD, but if they are not treated the disorder can continue into adulthood. Many people have said that ADHD has been over diagnosed to many children so they have been receiving medicine for disorders they may not even have (Brown). There is no evidence to prove this some people may think this because in some cases ADHD may be untreated or undiagnosed. There have also been thoughts that children with ADHD may be over medicated, it is a very strong topic with many parents because they do not want to give too much medicine to their children, especially starting at such a young age. In actuality a small percentage of children who are diagnosed receive medicine (Farokhzadi et al, 2012).

Interventions for ADHD include a range of medication and non-medication options. Many children, teens, and families receive nonspecific psychosocial support, counselling, and advice, as well as academic tutoring and coaching, both in school and out. Complementary and alternative medicine options, including dietary supplements, are also available. Few of these interventions have been systematically evaluated, and fewer still have been examined for their long-term effectiveness. One area of careful study has been the efficacy of pharmacological agents on the core symptoms of ADHD and more recently on several

aspects of overall functional impairment. This research has often, but not always, been supported by industry.

Non-pharmacological interventions, especially behaviour training with parents and teachers, have been studied most extensively for treatment of DBD, primarily ODD and CD. These conditions often co-occur with ADHD, especially hyperactive impulsive subtype, and in community practice can be hard to distinguish from one another. The well known Multimodal Treatment Study of ADHD (MTA Study) funded by the U.S. National Institutes of Mental Health (NIMH) remains the best source of information regarding the comparative effectiveness of pharmacological versus non pharmacological interventions for ADHD over an extended period of time. The MTA study is discussed at length later in this report. Following the initial results, published in 1999, behavioural interventions for children age 6 and up generally targeted ODD and CD symptoms with MPH and other psycho stimulants used for core symptoms of ADHD, inattention, impulsivity, distractibility, and overactivity. (Higgins, 2011)

Public perceptions of attention-deficit hyperactivity disorder (ADHD) are replete with myths, misconceptions and misinformation about the nature, course and treatment of the disorder. Popular misconceptions assert that ADHD is not a disorder or at minimum, is a benign one that is over-diagnosed. Critics often claim that children are needlessly medicated by parents who have not properly managed their unruly, unmotivated or underachieving children, or who are looking for an academic advantage in competitive, high-stakes educational environments. Some suggest that "a growing intolerance of childhood playfulness may in fact be leading to more and more children being labeled with ADHD" (Panksepp, 1998, p. 91). Critics rarely present evidence-based arguments and frequently allege that professionals are harming otherwise normal children by diagnosing and treating ADHD.

While barriers to treatment have been reduced in recent years, there is a climate of blame, shame, embarrassment and stigmatism that discourages some from seeking help for debilitating mental health disorders, including ADHD. There is compelling evidence that a large number of youth with a variety of mental disorders, including ADHD, are not being served, are inadequately served, or are inappropriately served (US Surgeon General's Report on Mental Health, 2001; Jensen et al., 1999; MTA, 1999). The Executive Summary on Mental Health: Culture, Race and Ethnicity, a Supplement to the Surgeon General's Report (2001) indicates that 75-80 percent of children and youths with mental health illnesses do not receive needed services. Misinformation often demonizes those in need of treatment for ADHD and may discourage individuals from seeking appropriate care. Parents may avoid professional help because they fear accusations of being labelled poor parents, individuals who needlessly medicate their children. Parents of children with ADHD are often accused of seeking to medicate overly playful, non-compliant or mildly disruptive children. More likely, parents are struggling to help their children cope with a serious constellation of problems and are seeking help because previous attempts to reduce the impact of ADHD have failed. Chronic, untreated disorders such as ADHD are costly to the individual, family and society (Leibson et al., 2001). Parents generally seek professional help for ADHD after a great deal of deliberation, consternation and past failures.

## **2.5 Scientific History of Hyperactivity**

The scientific history of hyperactivity was characterized by reports of brain damage in children presenting with abnormal behaviour. Following the lectures of George Frederic Still (1902), the assumptions of Tredgold in 1908, and the reports of the epidemic encephalitis from 1917 to 1928, several cases of children with behaviour disorders were depicted in those who suffered from “gross lesions of the brain and a

variety of acute diseases, conditions, and injuries that presumably had resulted in brain damage”. This indicated the growing notion that brain damage was the cause of hyperactive behaviour. Further research in the 1930s and 1940s supported the idea of a causal connection between brain damage and deviant behaviour (Ross and Ross, 1976). Children with a history of head injury were found to develop behaviour disorders similar to the post encephalitic behaviour disorder, while studies of birth trauma discovered a causative link between birth injury and mental retardation in children (Kessler, 1980). Infections, lead toxicity, and epilepsy were also found to be associated with various cognitive and behavioural problems (Barkley, 2006).

This new concept was characterized by the assumption that minimal damage to the brain, even when it cannot be demonstrated objectively, causes hyperactive behaviour and, in turn, “that even when brain damage could not be demonstrated it could be presumed to be present” (Ross and Ross, 1976). Under the influence of the work of Strauss and Lehtinen and Strauss and Kephart, it became general practice to infer brain damage solely from behavioural signs without any neurological evidence of damage (Barkley, 2006; Ross and Ross, 1976). In brain-injured and non-brain-injured mentally retarded children, Strauss and his colleagues identified a number of behaviour patterns, on the basis of which they could distinguish these two groups. In particular, they considered the symptom of hyperactivity as a sufficient diagnostic sign of underlying brain damage (Ross and Ross, 1976). Minimal brain damage was therefore supposed to be clearly associated with a specific syndrome (Conners, 2000). Most symptoms described in this context meet the current DSM-IV-TR criteria, and



the concept of minimal brain damage can be regarded as historical antecedent to ADHD (Laufer et al, 1957).

With regard to the etiology of the disorder, the concept of minimal brain dysfunction emphasized neurological factors including prenatal or perinatal “cerebral hypoxic lesions” (Towbin, 1971) rather than environmental or social factors, such as parents and family, which were proposed by psychoanalysts (Barkley, 2006; Clements and Peters, 1962). Since the definition of minimal brain dysfunction by Clements separates the symptoms “[impairment in] control of attention, impulse and motor function” by the conjunction “and” from other “various combinations of impairment” (Clements, 1966), these three symptoms can be seen as “the central or defining criterion for MBD [minimal brain dysfunction]” (Conners, 2000). The concept of the three main symptoms of inattention, impulsivity, and hyperactivity characterizing ADHD was therefore established with the definition of minimal brain dysfunction. The assignment of children with minimal brain dysfunction to the normal range of intelligence and therefore the differentiation from “the brain-damaged mentally subnormal groups” was important regarding the further conceptualization of ADHD (Clements, 1966).

In 1937, Bradley reported a positive effect of stimulant medication in children with various behaviour disorders (Bradley, 1937). Bradley was medical director of the Emma Pendleton Bradley Home, today called Bradley Hospital, in East Providence, Rhode Island, which was founded by his great-uncle George Bradley (Brown, 1998) to treat neurologically impaired children (Conners, 2000). Apart from children with definite neurological disorders or residual effects of encephalitis, there were children hospitalized with “emotional

problems” and major difficulties in learning and behaviour. Some of these children would possibly be diagnosed with ADHD today (Gross, 1995). Bradley’s discovery of the improvement by stimulants of the behaviour of children was based on a chance finding during his neurological examinations (Gross, 1995). Bradley performed pneumoencephalograms in order to examine structural brain abnormalities (Rothenberger and Neumärker, 2005). This usually caused severe headaches, which were supposed to be the result of a significant loss of spinal fluid. Bradley attempted to treat the headaches by stimulating the choroid plexus with Benzedrine which was “the most potent stimulant available at the time”. However, Benzedrine had a negligible effect on the headaches, but caused a striking improvement in behaviour and school performance in some of the children (Brown, 1998; Gross, 1995). Bradley subsequently started a systematic trial in 30 children of his hospital and observed remarkable alterations in behaviour. “The most spectacular change in behaviour brought about by the use of Benzedrine was the remarkably improved school performance of approximately half the children” (Bradley, 1937). The children “were more interested in their work and performed it more quickly and accurately” (Gross 1995). In addition, some decrease in motor activity was usually noted in the children who also “became emotionally subdued without, however, losing interest in their surroundings” (Bradley, 1937). Bradley was surprised at this effect. “It appears paradoxical that a drug known to be a stimulant should produce subdued behaviour in half of the children. It should be borne in mind, however, that portions of the higher levels of the central nervous system have inhibition as their function, and that stimulation of these portions might indeed produce the clinical picture of reduced activity through increased voluntary control” (Bradley, 1937). He later identified children who were most likely to benefit from Benzedrine treatment as “characterized by short attention span, dyscalculia, mood lability, hyperactivity, impulsiveness, and poor memory” (Conners, 2000). These features are nowadays associated

with ADHD. Bradley's observations of stimulant effects in hyperactive children were revolutionary (Gross, 1995) and are considered important discoveries in psychiatric treatment (Brown, 1998).

## **2.6 Behaviour Therapy and Parent Training in ADHD**

The terms "behaviour therapy" and "parent training" refer to a set of techniques can use to motivate a child to modify his/her behaviour. "These techniques can be useful for any child with disciplinary problems," says Martin Stein, cochair of the American Academy of Paediatrics' subcommittee on ADHD. "They just happen to be particularly effective for children with ADHD." Whether or not the child is on medication, these techniques can help him manage his symptoms. Some studies show that parents may be able to lower child's medication dosage if behavioural therapy is working well. But it's a full-time commitment and many parents find that the best way to learn how to use these techniques is to work directly with a therapist.

Frolich et al (2002) pointed out that cognitive behaviour therapy (CBT) is an important component in the treatment of ADHD. Parent management training is a useful adjunct to CBT and it is effective in situations where children have problems of self guidance. CBT with special focus on self-instructional and self-management skills help in reducing academic problems and aggressive behaviour in children with ADHD. After cognitive behaviour therapy, the core symptoms of ADHD at home and in school as well as the conduct problems get reduced. Furlong et al (2012) in the systematic review including 10 randomized controlled trials and three quasi-randomised trials concluded that behavioural therapy and group-based parenting interventions are effective for improving child conduct problems and parenting skills. Behavioural therapies evoke particular interest in the management of ADHD, as they are often viewed more favourably by parents. Randomized

controlled trial by Herbert SD et al provided support for the effectiveness of the parenting program for reducing ADHD symptoms and associated problems in preschool-aged children. Study by Curtis DF et al examined classroom behavioural outcomes for children with ADHD following their participation in behavioural parent training and child-focused behavioural activation therapy. Participants included students aged 7-10 years diagnosed with ADHD-Combined Type. Results indicated statistically significant improvements for externalizing behaviours and inattention.

Behaviour therapy can include any strategies that use to help the child behave better, but the techniques below are the ones specifically approved by the American Academy of Paediatrics as effective for children with ADHD.

**Positive reinforcement:** Entice the child to comply with the requests in exchange for small treats, such as trading cards or stickers, or privileges, such as being allowed to play on the computer. The eventual goal is to get the child to behave without the promise of a reward and to "cement" the behaviour so that it becomes routine. This technique works best with younger children who need to see immediate consequences. Parents should be careful not to promise the child too large a prize; luring the child with big-ticket items shifts the focus off the behaviour and onto getting the goods. And parents should keep in mind that praise, love, and affection should never be used as a reward; these are things child should enjoy on a regular basis, regardless of his behaviour.

**Reward systems:** For an older child who's more capable of understanding longer-term goals, parents can set up a reward chart where he accumulates points for good behaviour that add up to a bigger payoff after a certain time. Place the chart where child can see it easily such as in his room or on the refrigerator. Use stickers or colored markers to check off when

goals are completed and let the child know that for every five gold stars, he gets a prize, like a special dessert or an action figure that know he's had his eye on.

**Time-out and time in:** "Time-out is an effective strategy for ADHD kids if it's used judiciously," says George Lynn, author of *Survival Strategies for Parenting Your ADD Child*. It works better if it's used less as a punishment and more as a way to cool down. If the child is becoming frustrated or is about to lose his temper, send him to sit quietly in a boring area for a minute or two with no interaction from the parent. If can, teach the child to physically remove himself from a stressful situation on his own, his emotions will often follow suit. If the child is able to calm down, give him "time in" by praising his effort and welcome him back into your company. Using "time in" as a reward for good behaviour is an important complement to time-out.

**Withholding privileges:** This technique, also known as "response cost," involves taking away privileges when child is misbehaving. Withholding has to be used carefully to be effective without damaging the child's already fragile self-esteem. "This technique should not be the cornerstone of treatment," says Stein. Parents may want to reserve this technique for one particularly troublesome area or dangerous behaviour, such as hitting a sibling or running out into the street. Never withhold the praise or affection as punishment; all children need and deserve to feel loved regardless of their behaviour. Parents also shouldn't withhold activities that are instrumental in managing child's ADHD

**Token economy:** Token economy is a more complicated reward system in which child earns points (or tokens) when he behaves and loses them when he misbehaves. For

example, he may accumulate stars on a chart for accomplishments such as completing his homework and lose stars for breaking rules such as leaving the table during dinner. At the end of the week, he may receive a prize depending on the number of stars he has left. This is a sophisticated technique often used in the classroom with older children. A counsellor can help in figure out how to make it work effectively at home.

## **2.7 Epidemiology of ADHD in School-age Children**

Attention deficit hyperactivity disorder (ADHD) is a relatively common condition of childhood onset and is of significant public health concern. Over the past two decades there have been 19 community-based studies offering estimates of prevalence ranging from 2 percent to 17 percent. The dramatic differences in these estimates are due to the choice of informant, methods of sampling and data collection, and the diagnostic definition. This provides a critical review of community-based studies on the prevalence of ADHD in children and adolescents. Based on the 19 studies reviewed, the best estimate of prevalence is 5 percent to 10 percent in school-aged children. The review also examines age and gender effects on the frequency of ADHD. (Scahill, Larry, 2000)

Although there is no global consensus on the prevalence of attention-deficit hyperactivity disorder (ADHD) in children, adolescents and adults, meta-regression analyses have estimated the worldwide prevalence at between 5.29 percent and 7.1 percent in children and adolescents, and at 3.4 percent in adults. The prevalence of ADHD in very young children (aged <6 years) or later in adult life (aged >44 years), is less well-studied.

ADHD prevalence rates may vary depending on several factors:

- age – whilst ADHD was once considered to be a childhood disease with a decline in symptoms during maturation to adulthood, it is now acknowledged to persist into adulthood in an estimated 50–66 percent of individuals

- gender – a higher prevalence of ADHD is often reported in males
- presentations of ADHD – the combined inattentive-hyperactive-impulsive presentation of ADHD is considered most prevalent in children, adolescents and adults.

ADHD is often present alongside comorbidities such as oppositional defiant disorder, conduct disorder, anxiety disorder, personality disorders and depression, which may further complicate understanding of true prevalence rates.

## **2.8 A Comparison of Children Affected by Prenatal Alcohol Exposure and ADHD**

Behavioural deficits are often noted in children with fetal alcohol syndrome (FAS) and other individuals with prenatal alcohol exposure, including mental retardation, learning problems, social problems, and deficits in attention. Because attention deficit, hyperactivity disorder (ADHD) has been diagnosed so frequently in children with FAS and other alcohol related birth defects, there has been speculation that alcohol is an etiological factor in ADHD. To examine the relationship between behaviour characteristics of children with fetal alcohol exposure and those seen in children with a diagnosis of ADHD, 149 low socioeconomic status (SES). One hundred and twenty-two were a sub-sample from a longitudinal study of prenatal alcohol exposure, whereas twenty-seven were identified in an ADHD Clinic. Children were given two sets of tests: “traditional model” of conventional behavioural and psychiatric measures of ADHD and externalizing behaviour; and measures of neurocognitive functioning reflecting a four-factor model of the neurological basis of the components of attention (Mirsky AF, in *Integrated Theory and Practice in Clinical Neuropsychology*, Hillsdale, NJ, Lawrence Erlbaum Associates, 1989). Results indicated that children with the physical characteristics associated with prenatal alcohol exposure and those with a diagnosis of ADHD had equivalent intellectual abilities with both clinical groups performing more poorly than contrast children from the same SES and ethnic groups. However, there were

clear distinctions on behavioural and neurocognitive measures between the two clinical groups with those with ADHD performing more poorly on conventional tests sensitive to attention problems and conduct disorder. When these two groups were compared on measures designed to measure the model of the four factors of attention by Mirsky, they were noted to have distinct patterns of deficits. These results suggested that the alcohol-affected children did not have the same neurocognitive and behavioural characteristics as children with a primary diagnosis of ADHD.



# **METHODOLOGY**

## **CHAPTER III**

### **METHODOLOGY**

The methodology adopted for the study entitled “Enlightening Anganwadi Teachers and Parents of preschoolers on Attention Deficit Hyperactive Disorder (ADHD)” was discussed under the following headings.

3.1 Selection of Area

3.2 Selection of Sample

3.3 Selection of Tool

3.4 Conduct of the Study

3.5 Analysis and Interpretation

#### **3.1 Section of Area**

The remote areas of Ernakulam district (Kadavanthra, Kaloore and Perumpalam) was chosen for the study as previous studies indicate that people in the rural areas although are familiar with some of the symptoms that occur in ADHD, are not aware of the details and remedies of ADHD which is indeed affecting the lives of children who are victims of it.

#### **3.2 Selection of Sample**

The sample chosen for the present study consisted of 40 parents having young children (0-5 yrs) and 65 anganwadi teachers through purposive sampling. According to

Ahuja (2001) “purposive sampling also known as judgemental sampling, researcher chooses person who, in his judgement about some appropriate characteristics required the sample member, are thought to be relevant to the research topic and are easily available to him”. The symptoms of ADHD are mostly visible in the years of 0-5, the early detection and identification of the ADHD disorder can be helpful for the early intervention of such children. The sample was chosen for the study according to the purpose of the research.

### **3.3 Selection of Tool**

The most important part of the research is the selection of an appropriate tool. The tool used for the study was a questionnaire prepared on the basis of the prepared booklet, a pre and post questionnaire (self designed) to check the level of awareness in ADHD before and after the awareness programme. The questionnaire had 44 structured questions prepared to collect the relevant information from the selected subjects. The booklet contained relevant information related to ADHD which are collected from different sources. The contents include definition, symptoms, types, causes, diagnosis and treatment of ADHD and the ways to deal with children having ADHD. A copy of the pre-questionnaire, booklet, power point presentation and post-questionnaire are appended in Appendix 1, 2, 3 and 4 respectively.

### **3.4 Conduct of the Study**

The study was conducted in three phases:

Phase 1: Pilot study and preparation of tools

Phase 2: Administration of questionnaire and awareness programme for parents

Phase 3: Administration of questionnaire and awareness programme for teachers

## Phase 1: Pilot study and preparation of tools

The pilot study was conducted among 20 parents having children in the age range of 0-5 years to get an idea of their existing awareness on ADHD. The investigator then collected material related to ADHD from reliable sources. Which was compiled into a booklet and a power point presentation was developed based on the same. The booklet was also translated into the vernacular language so that the subjects could read it at their leisure and gain a deeper understanding of the same and also share it with others when required.

The contents of the booklet are as follows:-

1. Introduction to ADHD
2. Symptoms of ADHD
3. Types of ADHD
4. ADHD can be mistaken for other problems
5. Factors that causes ADHD
6. Diagnosis of ADHD
7. Conditions that co-exist with ADHD
8. Associated problems of ADHD
9. How to deal children with ADHD –school, home and classroom
10. Treatment for ADHD

The power point presentation consisted of 32 slides in the following sequence:-

1. Definition of ADHD
2. Misconceptions of ADHD
3. Indication of ADHD as a Developmental Disorder
4. ADHD Prevalence and Demographics

5. Symptoms of ADHD
6. Causes of ADHD
7. Diagnosis of ADHD
8. Types of ADHD
9. Defining Comorbidity
10. Impact of ADHD on School Performance
11. Effect of ADHD on Behavioural Development
12. Developmental Impact of ADHD
13. Treatment of ADHD

#### Phase 2: Administration of questionnaire and awareness programme to parents

The selected parents were intimated about the conduct of the awareness programme through the selected anganwadies (Anganwadies at Kaloor and Perumpalam). The investigator also met few representatives from the parents, created a rapport and explained to them about the purpose of the study. They were also convinced about the benefits they would accrue if they attended the class. After the parents reached the venue, they were greeted and presented with the pre questionnaire which was also translated to them in the regional language to provide clarity while they responded. After they finished filling it up they were asked to return their filled in questionnaires. Then they were given a class on the topic ADHD and its varied aspects using a power point presentation. Doubts were clarified then and there. The prepared booklet was distributed. After the class, they were given the post questionnaire to fill up based on what they had understood

#### Phase 3: Administration of questionnaire and awareness programme to teachers

The selected teachers were intimated about the conduct of the awareness programme through the anganwadi training centre (Anganwadi workers training centre at Kadavanthra).

The investigator met the head of the centre and explained about the purpose of the study and also about the benefits they accrue if they attended the class. After the teachers reached the centre, they were greeted and presented with the pre questionnaire which was also translated to them in the regional language to provide clarity while they responded. After they finished filling it up they were asked to return their filled questionnaire. Then they were given a class on the topic ADHD and its varied aspects using a power point presentation. Doubts were clarified then and there. A booklet containing the same information was given to them. After the class, they were given post questionnaire to fill up.

**Selection of area**

**Selection of sample**

**Selection of tool**

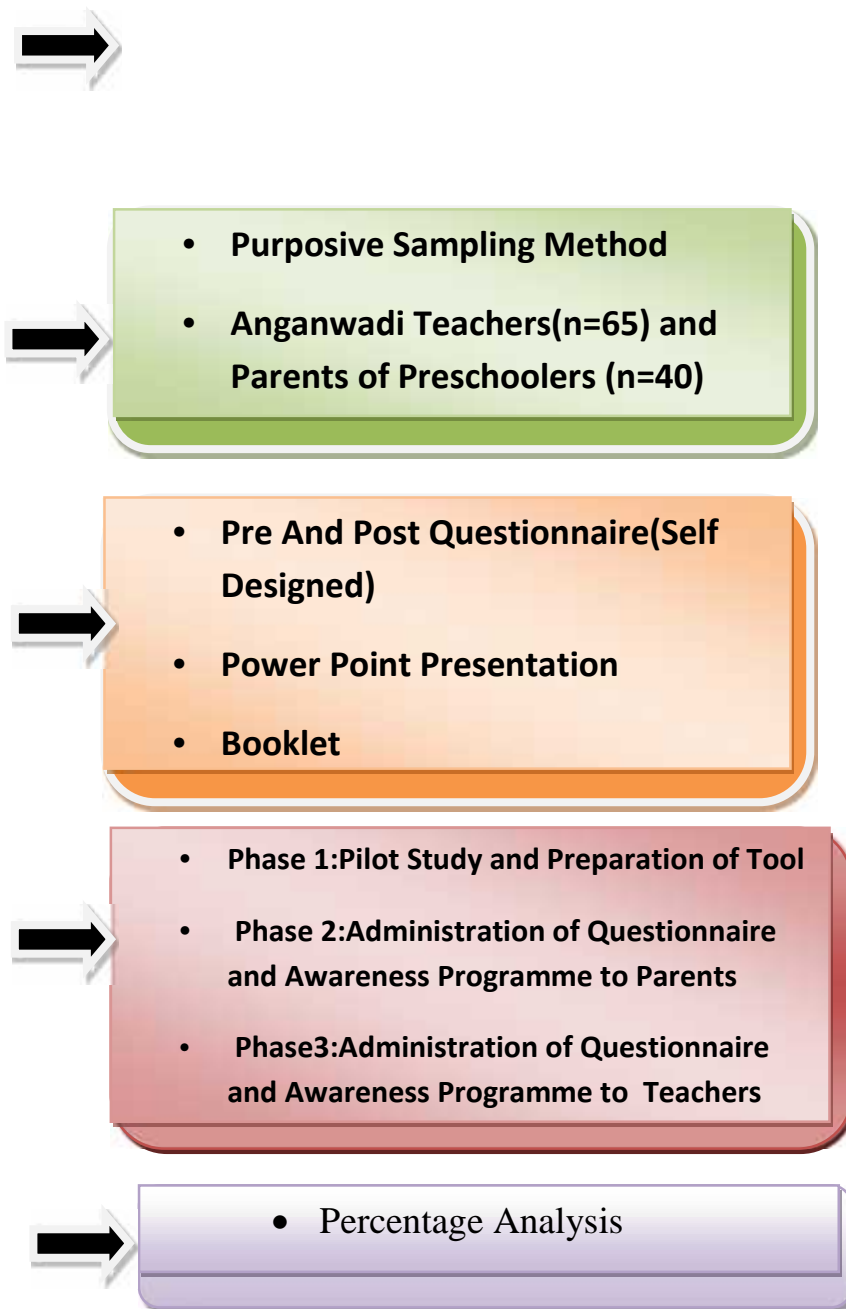
**Conduct of the study**

**Analysis of data**

### **3.5 Analysis and Interpretation**

The collected data was consolidated and tabulated. The results are interpreted in the form of percentage to find out the difference in the level of awareness before and after the programme.

- **Anganwadi Teachers Training Centre at Kadavanthra, Anganwadies at Kaloor and Perumpalam**



**Figure 1**  
**Research Design**

# **RESULTS AND DISCUSSION**

## **CHAPTER IV**



## **RESULTS AND DISCUSSION**

The results of the study entitled “Enlightening Anganwadi Teachers and Parents of preschoolers on Attention Deficit Hyperactivity Disorder (ADHD)” are given under the following subheadings.

4.1 Development of Power Point Presentation on ‘Attention Deficit Hyperactive Disorder’

4.2 Conduct of the Awareness programme on ‘Attention Deficit Hyperactive Disorder’

4.3 Age Distribution of Parents and Teachers

4.4 General Awareness on ADHD

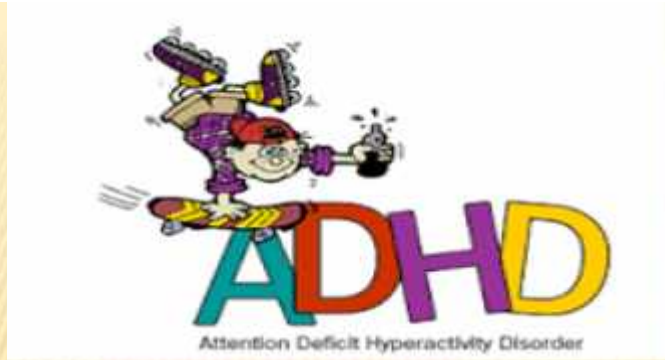
4.5 Awareness of Causative factors of ADHD

4.6 Knowledge of the Milestone Pattern of Children with ADHD

4.7 Knowledge of the Behavioural Issues exhibited by Children having ADHD

### **4.1 Development of Power Point Presentation on ‘Attention Deficit Hyperactive Disorder**

The details of the educational package developed using the procedure explained in. The information package consisted of 32 slides pertaining to various topics related to ADHD.



**Enlightening Anganwadi teachers and parents of  
Preschoolers on ADHD**

Presented By,  
SUKANYAS R

**Slide 1**

**Title**

**GOALS FOR THIS PRESENTATION**

- ✗ Provide a basic understanding of what ADHD is, and what is not.
- ✗ Enlighten information on ADHD

**Slide 2**

**Goal of presentation**

## CONTENT

- × Introduction to ADHD?
- × Symptoms of ADHD
- × Types of ADHD
- × How to diagnose ADHD
- × Treatment of ADHD

Slide 3

Contents

**What is ADHD**

ADHD is one of the most common neurodevelopmental disorders. Recent data indicates that up to 8-10% of school-age children meet the necessary criteria for a diagnosis of ADHD (Academy of Pediatrics, 2007).

**Types of ADHD**

- 1 Inattentive**  
Child exhibits significant problems with multiple symptoms with non-significant hyperactivity or impulsivity. This is what used to be called ADD.
- 2 Hyperactivity**  
Child exhibits adequate attentional control. However, presents with significant deficits with activity level and/or impulse control.
- 3 Combined**  
The most common form of ADHD in which the child struggles with paying attention as well as regulating behaviors.

**Population that has ADHD**

ADHD is more common in males than in females. According to community and pediatrician surveys, the rate between males and females is 2:1.

Slide 4

Introduction to ADHD

# ADHD

## × **Misperceptions:**

- + Behaviours that directly result from ADHD are not primarily attributable to poor parenting, lack of discipline, low motivation, or intentional “trouble making.”
- + Not everything that fidgets and/or behaves defiantly is ADHD.

Slide 7

## ADHD and misperceptions

## INDICATION OF ADHD AS A DEVELOPMENTAL DISORDER

- × **Seen in early child development**
- × **Behaviours clearly distinguish child from non-ADHD children**
- × **Occurs across several situations**
- × **Behaviours persistent over time**

Slide 8

## Indication of ADHD as a developmental disorder

## **ADHD: PREVALENCE AND DEMOGRAPHICS**

- ✗ Overall prevalence 3% to 10% in school-aged children
- ✗ Diagnosed in boys 3 to 4 times more often than in girls
- ✗ Persists in 30% to 50% of patients into adolescence and adulthood (symptom profile may change)

**Slide 11**

**Prevalence and demographics of ADHD**

## **IMPACT OF ADHD ON SCHOOL PERFORMANCE**

- ✗ Poor classroom behaviour
- ✗ Poor academic achievement
- ✗ Special education requirements (tutoring and special educational programmes)
- ✗ School exclusion (either suspension or expulsion)
- ✗ Repetition of grades
- ✗ Failure to gain external qualifications

**Slide 12**

**Impact of ADHD in school performance**

## EFFECTS OF ADHD ON BEHAVIOURAL DEVELOPMENT

- × Problems with productivity and motivation
- × Reduced ability to express ideas and emotions
- × Decreased working memory
- × Problems with social interaction
- × Impairments in speech
- × Problems with verbal reasoning

Slide 13

Effect of ADHD on behavioural development

## SYMPTOMS OF ADHD



Slide 14

Symptoms of ADHD

× Difficulties sustaining attention

- + Daydreaming
- + Child doesn't listen
- + Always losing things
- + Forgetful
- + Easily distracted
- + Needs constant supervision
- + Child doesn't finish anything he/she starts

**Slide 15**

**Symptoms of inattention**

× Hyperactivity

- + Always on the go
- + Squirmy...can't sit still
- + Talks too much
- + Frequently hums or makes odd noises
- + Unable to "put the brakes on" motor activity
- + Child has two speeds; asleep and awake

**Slide 16**

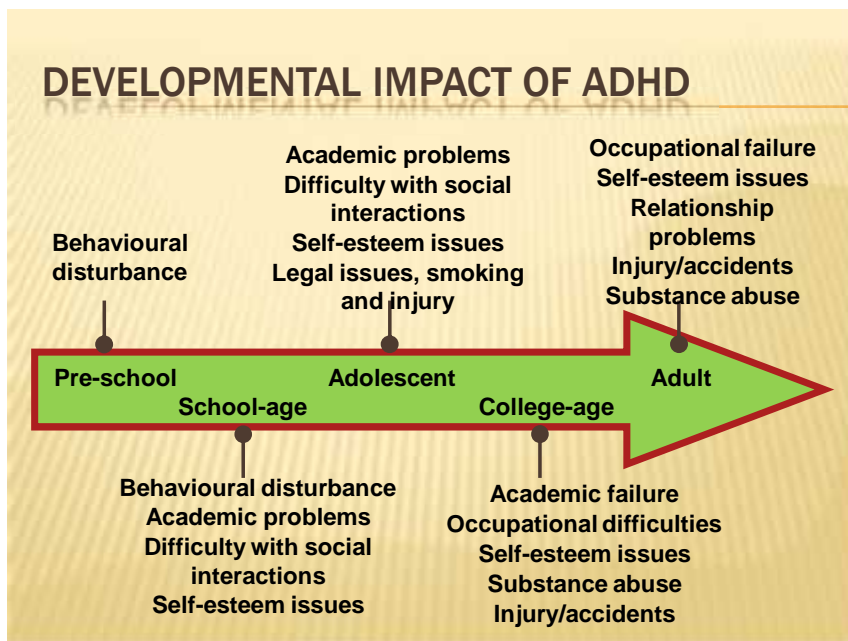
**Symptoms of hyperactivity**

× Problems with impulse control

- + Impatient/Difficulties waiting for things
- + Always interrupting others
- + Blurts out answers
- + Doesn't take turns
- + Tries to take shortcuts on many tasks (including chores, homework, etc.)

Slide 17

Symptoms of impulsivity



Slide 19

Developmental impact of ADHD



## DEFINING COMORBIDITY

- × ADHD is highly comorbid
- × Comorbidity is defined as two different diagnoses present in an individual patient
- × It is important to recognise comorbid disorders
- × Comorbidities may require treatment independent from and different to therapy for ADHD

Slide 20

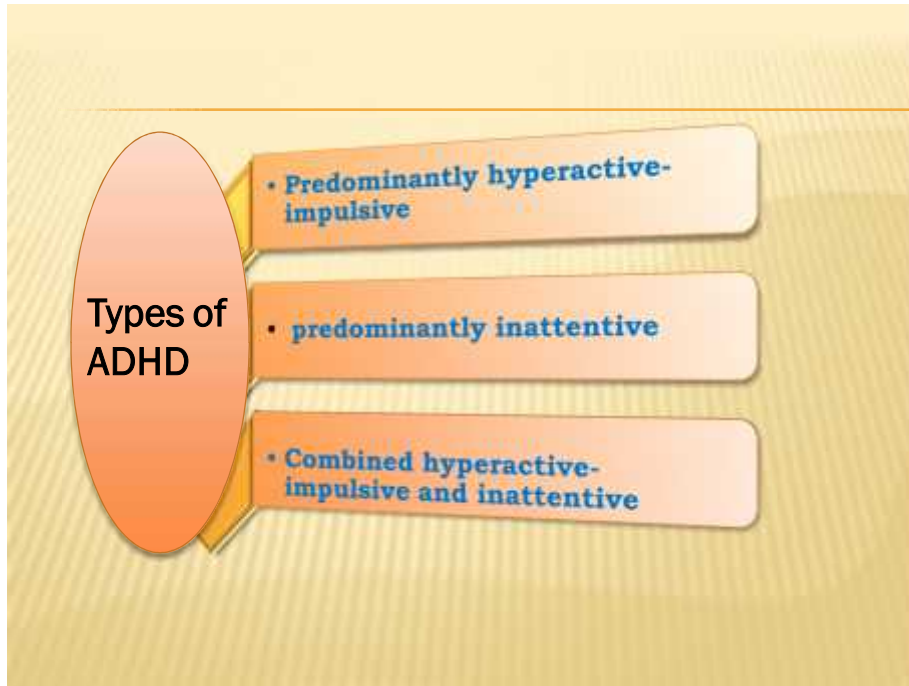
Defining comorbidity

## ADHD CAN BE MISTAKEN FOR OTHER REASONS

- × Depression
- × Anxiety
- × Hearing problems
- × Visual problems
- × Seizure disorder
- × Oppositional defiant disorder
- × Autism
- Learning disabilities
- Parenting problems
- Substance use
- Medication side-effects
- Lead poisoning

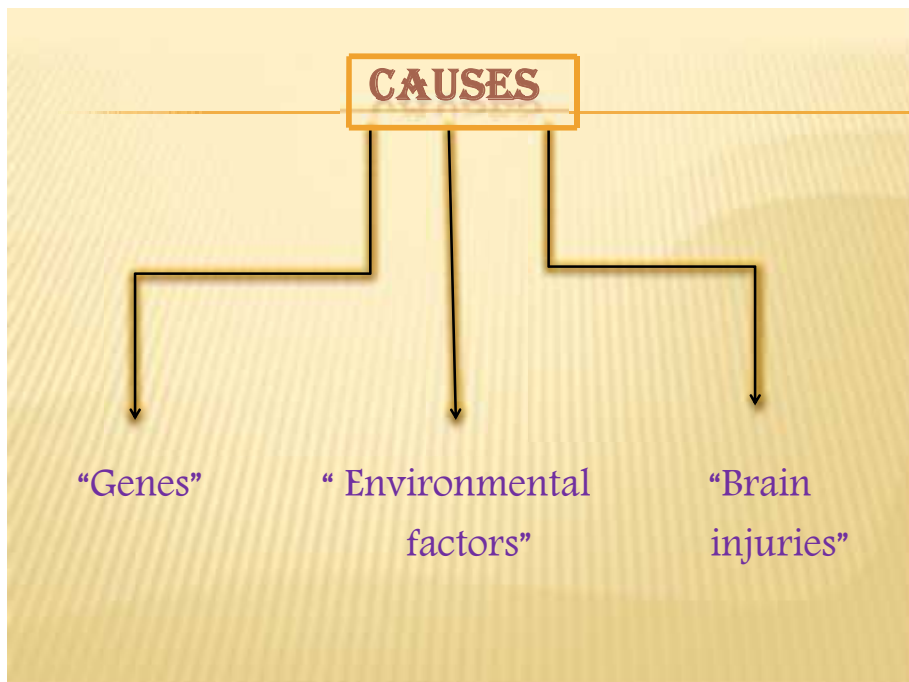
Slide 21

ADHD can be mistaken for other reasons



Slide 22

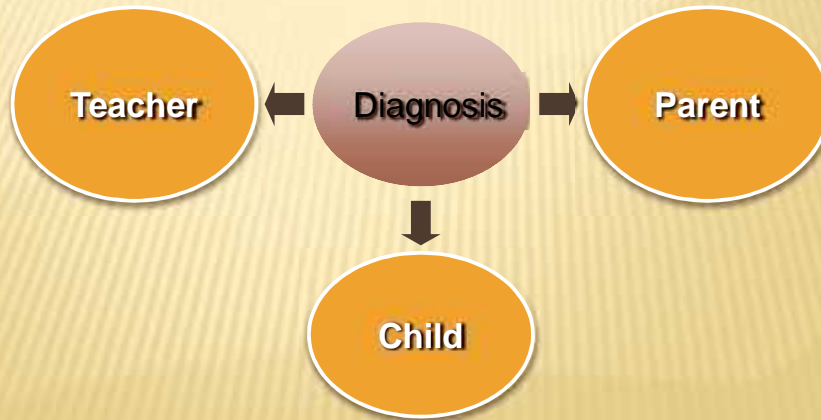
### Types of ADHD



Slide 23

### Causes of ADHD

## INPUT NEEDED TO MAKE A DIAGNOSIS



Slide 24

### Diagnosis of ADHD

## TOOLS USED IN BEHAVIOURAL TREATMENT

- × **Specific strategies**
  - + **Reward system**
  - + **Time out**
  - + **Social reinforcement**
  - + **Behaviour modelling**
  - **Group problem-solving**
  - **Sports skills**
  - **Social skills training**
- × **Support for parents**
- × **Family and patient education**

Cunningham, Barkley, Child Dev 1979; 50: 217-224

Slide 27

### Treatment of ADHD



### Slide 30

### Strengths and weakness of children with ADHD

### CONCLUSION

1. ADHD is a highly prevalent, brain-based disorder which is associated with lifelong impairment in functioning
2. Environmental factors can contribute to the expression, severity, course, and comorbid conditions
3. Long-term developmental outcomes for individuals with ADHD can include serious substance abuse, chronic criminality, depression and suicide
4. Stimulant medications and behavior therapy are currently the only established evidence-based treatments for ADHD
5. Combined behavioral-pharmacological treatment has the greatest impact on functional outcomes, is preferred by parents and teachers, and is most likely to result in normalization of behavior

### Slide 31

### Conclusion

## 4.2 Conduct of the Awareness programme on ADHD



**Plate 1**

**Investigator welcoming the teachers**



**Plate 2**

**Awareness class by the investigator**



**Plate 3**  
**Teachers attending the session**



**Plate 4**  
**Investigator thanking the teachers**

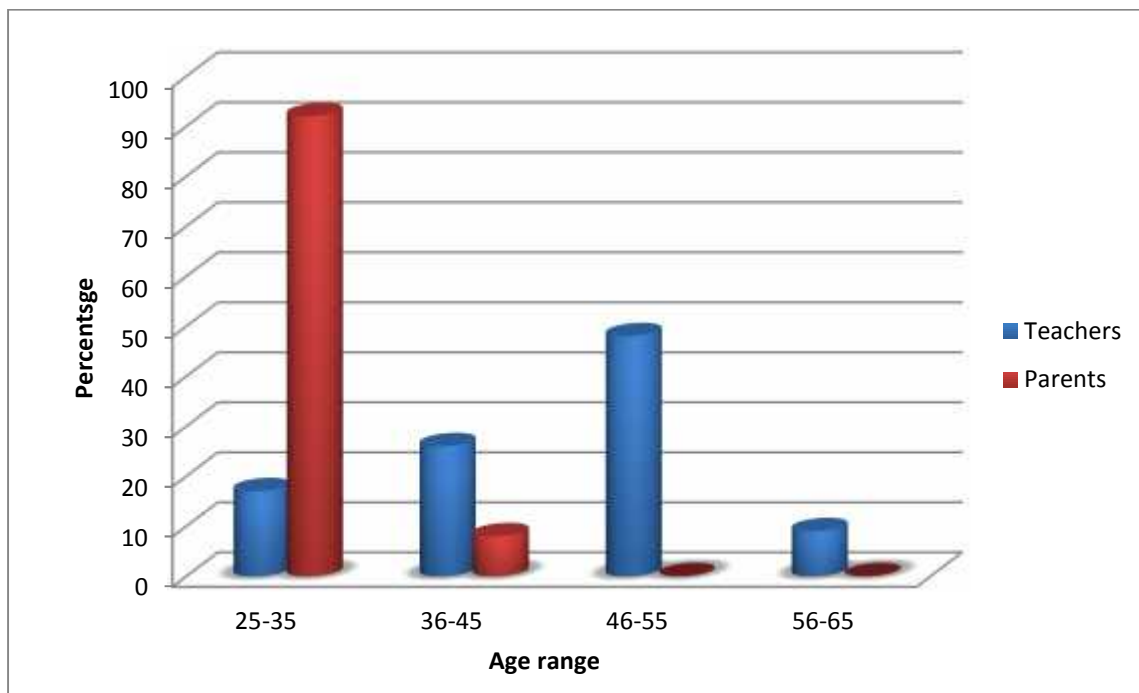
### 4.3 Age Distribution of Parents and Teachers

The details related to the age of the selected parents and teachers are given in the following table.

**Table 1**

**Age Distribution of Parents and Teachers**

Age (in years)	Respondents			
	Teachers (n=65)	Responses (%)	Parents (n=40)	Responses (%)
25-35	11	17	37	92
36-45	17	26	3	8
46-55	31	48	–	–
56-65	6	9	–	–



**Figure 2**

**Graph showing the Age Distribution of Parents and Teachers**

From the table 1 and figure 2 it is clear that nearly half of the respondents (both parents and teachers) fell in the age between 25-35. The age range of 46-55 had 48 percent respondents, in the Anganwadi teacher category. About 17 percent subjects coming under the age range of 36-45 years.

#### 4.4 General Awareness on ADHD

The following table portrays the level of awareness of ADHD of the selected parents and teachers.

**Table 2**  
**General Awareness on ADHD**

Particulars	Teachers (n=65) %						Parents (n=40) %					
	Pre test			Post test			Pre test			Post test		
	Y	N	D	Y	N	D	Y	N	D	Y	N	D
Aware of ADHD	-	100	-	100	-	-	-	100	-	100	-	-
Agree that ADHD is a common childhood behaviour	-	-	100	28	72	-	-	-	100	25	75	-
Feel that ADHD affects adult	-	-	100	63	32	5	-	-	100	75	25	-
Believe that ADHD coexist with other condition	-	-	100	82	15	3	-	-	100	68	32	-
Aware of symptoms of ADHD	-	100	-	100	-	-	-	100	-	98	2	-
ADHD is mistaken and misjudged	-	-	100	65	32	3	-	-	100	88	12	-
Aware of the causes of ADHD	-	100	-	100	-	-	-	100	-	100	-	-
Feel that genes have a role in causing ADHD	-	-	100	97	3	-	-	-	100	100	-	-
Aware of the ADHD symptoms firstly appearing age	-	100	-	100	-	-	-	100	-	100	-	-
Believe that environmental has role in causing ADHD	-	-	100	35	65	-	-	-	100	15	85	-

\* Y-Yes; N-No; D-Don't know



As regards the awareness of teachers on ADHD, table 2 shows that none of them were aware of any of the concepts related to ADHD. However it was interesting to note that their awareness had improved after they were given a class on the same. Seventy two percent came to know that it is not a common childhood behaviour and 63 percent understood that ADHD persisted in adults too. It was satisfying to note that all of them (100%) became aware of the symptoms, causes and the age at which the symptoms appear. The same pattern was seen in the case of the parents too. Both parents and teachers seemed to be interested in learning about ADHD and its associated aspects as they were dealing with children who could be given therapy and made better at the early stages of life.

Attention deficit hyperactivity disorder (ADHD) is a highly prevalent neurodevelopmental disorder among children, adolescents and adults in different parts of the world (Al-Sharbati et al., 2003; Kessler, 2006). Research indicates that in 65–80 percent of the diagnosed ADHD cases, the disorder will continue to exist into adolescence and adulthood (Faraone et al., 2003; Wolraich et al., 2005).

#### 4.5 Awareness of Causative factors of ADHD

The level of awareness of the factors causing ADHD is given in the following table.

**Table 3**  
**Awareness of Environmental factors in causing ADHD**

Particulars	Teachers (n=65) %						Parents (n=40) %					
	Pre test			Post test			Pre test			Post test		
	Y	N	D	Y	N	D	Y	N	D	Y	N	D
Feel that food additives have role in causing ADHD	-	-	100	14	81	5	-	-	100	12	88	-
Believe that ADHD can be treated	-	-	100	100	-	-	-	-	100	100	-	-
Aware of medication available for curing ADHD	-	100	-	-	100	-	-	100	-	5	95	-
Believe that medication used for ADHD causes side effects	-	-	100	-	100	-	-	-	100	5	95	-
Know that therapy available for ADHD is effective	-	-	100	92	8	-	-	-	100	100	-	-
Feel that children with ADHD understand verbal directions just as their peers	-	-	100	77	23	-	-	-	100	80	20	-
Believe that ADHD children have difficulty in verbal expression	-	-	100	88	12	-	-	-	100	75	25	-
Feel that hyperactivity is a significant problem is ADHD children	-	-	100	89	11	-	-	-	100	100	-	-
Understood that children with ADHD engage more in physical activities	-	100	-	97	3	-	-	100	-	88	12	-
Have seen that ADHD children blame others for their mistakes	-	100	-	62	32	6	-	100	-	85	15	-

\* Y-Yes; N-No; D-Don't know

As regards the awareness of teachers on environmental factor in the causation of ADHD, none of them were aware of any factors before the programme. Table 3 indicate that eighty one percent understood that food additives do not have any role in causing ADHD and all of them (100%) believed that ADHD can be treated. Eighty nine percent felt that hyperactivity is a significant problem in children with ADHD. Seventy seven percent felt that children with ADHD understood verbal directions as well as peers. The same pattern was seen in the case of the parents too. Both parents and teachers seemed to be interested in knowing about ADHD.

#### **4.6 Knowledge of the Milestone Pattern of Children with ADHD**

The awareness on the differences seen during the development of children with ADHD in the selected parents and teachers are in the following table.

**Table 4**

**Knowledge of the Milestone Pattern of children with ADHD**

Particulars	Teachers (n=65) %						Parents (n=40) %					
	Pre test			Post test			Pre test			Post test		
	Y	N	D	Y	N	D	Y	N	D	Y	N	D
Feel that mother's mental status during pregnancy causes ADHD in children	-	-	100	34	66	-	-	-	100	5	95	-
Feel that type of delivery plays a role in causing ADHD	-	-	100	58	42	-	-	-	100	50	50	-
There is significant difference in milestones of children having ADHD	-	-	100	62	38	-	-	-	100	98	2	-
Feel that children with ADHD having feeding problem in infancy	-	-	100	75	25	-	-	-	100	98	2	-
Feel that ADHD children are difficult to cuddle	-	-	100	77	23	-	-	-	100	88	12	-
Children with ADHD have sleep pattern difficulties during infancy	-	-	100	92	8	-	-	-	100	93	7	-
Believe that children with ADHD are more prone to accidents	-	-	100	92	8	-	-	-	100	95	5	-
Feel that children with ADHD quickly move from one activity to another	-	-	100	92	8	-	-	-	100	100	-	-
Feel that children with ADHD have trouble in making and keeping friends	-	-	100	88	12	-	-	-	100	93	7	-
Feel that there is gender difference in children getting affected with ADHD	-	-	100	100	-	-	-	-	100	100	-	-

\* Y-Yes; N-No; D-Don't know

As regards the awareness of parents on differences seen during the development of children with ADHD, it is noted from the above table and figure that none of them were aware of any developmental differences in children with ADHD. Ninety five percent felt that the mother's mental status during pregnancy do not cause ADHD in children and 66 percent teachers felt for the same. Ninety three percent understood that children with ADHD have difficulty in establishing a sleep pattern and children with ADHD have trouble in making and keeping friends. It was interesting to note that all of them (100%) became aware that children with ADHD have difficulty in concentrating in one activity for a long time and also that gender differences is a factor for children to get affected with ADHD. The same pattern was seen in the case of teachers too.

The study of Medscape General Medicine (2004), on 'Perceptions of Girls and ADHD' revealed that most of the general public (58%) and teachers (82%) think ADHD is more prevalent in boys. The general public and teachers think boys with ADHD are more likely than girls to have behavioral problems (public: 52 percent v/s 26 percent; teachers: 36 percent v/s 18 percent, respectively), while girls with ADHD are thought to have less noticeable problems than boys, such as being inattentive (public: 19 percent v/s 11 percent; teachers: 29 percent v/s 10 percent, respectively) or feeling depressed (public: 16 percent v/s 16 percent; teachers: 12 percent v/s 0.0 percent, respectively). Four out of 10 teachers report more difficulty in recognizing ADHD symptoms in girls.

#### **4.7 Knowledge of the Behaviour Issues exhibited by children having ADHD**

The table shows the knowledge on the behaviour issues exhibited by children by children with ADHD in the selected sample.

**Table 5****Knowledge of the Behaviour Issues exhibited by children having ADHD**

Particulars	Teachers (n=65) %				Parents (n=40) %			
	Pre test	Post test			Pre test	Post test		
	D	Y	N	D	D	Y	N	D
Stealing	100	50	43	6	100	72	28	-
Running away	100	65	29	6	100	85	15	-
Telling lies	100	69	29	2	100	88	12	-
Deliberately sets free	100	77	15	8	100	95	5	-
Truancy	100	78	22	-	100	95	5	-
Cruel to animals	100	68	25	7	100	70	30	-
Initiating physical fight	100	82	18	-	100	70	20	10
Physically cruel to others	100	74	26	-	100	88	5	7

\* Y-Yes; N-No; D-Don't know

About the behaviour issues exhibited by children having ADHD, none of them were aware of any unwanted behaviour before the programme. Fifty percent teachers believed that children with ADHD have stealing behaviour and 72 percent parents agreed with the same. About 65 percent teachers and 85 percent parents reported that children with ADHD show running away behaviour. About 74 percent felt that the children with ADHD were physically cruel to others and 68 percent felt that children with ADHD are cruel to animals too. Seventy eight percent believed that children having ADHD were truant and 77 percent mentioned that these children are lazy. The same pattern was seen in the case of the parents too.

# **SUMMARY AND CONCLUSION**

## CHAPTER V

### SUMMARY AND CONCLUSION

The study entitled “Enlightening Anganwadi Teachers and Parents of Preschoolers on Attention Deficit Hyperactive Disorder (ADHD)” was conducted in Ernakulum district using 65 Anganwadi teachers and 40 parents, having children in the age group of 0-5 years, with the help of self designed Questionnaire, Booklet and Power Point Presentation.

The findings are emerged from the study are as follows.

- ❖ Out of 65 Anganwadi teachers selected, 31 teachers fell in the age group of 46 to 55 years and out of 40 parents selected, 37 parent were between the age of 25 to 35 years
- ❖ About the information collected on General awareness on ADHD, 72 percent teachers and 75 percent parents knew that ADHD is not a common childhood behaviour
- ❖ Sixty three percent teachers and 75 percent parents understood that ADHD persist in adults also
- ❖ All of them (100%) became aware of the symptoms, causes and the age at which the symptom appear in children having ADHD
- ❖ Eighty one percent teachers came to understood that food additives do not cause ADHD in children and 88 percent parents also agreed with the same
- ❖ All the parents (100%) and 89 percent teachers felt that hyperactivity is the most significant problem in children with ADHD
- ❖ All the respondents (100%) says that ADHD can be treated through medications and therapies
- ❖ Seventy seven percent teachers and 80 percent parents felt that children with ADHD understood verbal directions just as their peers



- ❖ On the topic, mother's mental status during pregnancy and ADHD, 95 percent parents and 66 percents teachers felt that there is no relation between mothers mental health status during pregnancy and ADHD
- ❖ All of them (100%) became aware that gender differences is a factor for children to getting affected with ADHD
- ❖ Ninety two percent teachers and all the parents (100%) felt that children with ADHD have difficulty in concentrating in one activity for a long period
- ❖ Fifty percent teachers and 72 percent parents believed that children having ADHD show stealing behaviour
- ❖ On the running away behaviour of children having ADHD, 65 percent teachers and 85 percent parents mentioned that such children show running away behaviour
- ❖ Eighty eight percent parents reported that children with ADHD have lying behaviour and 69 percent teachers were agreed the same
- ❖ Ninety five percent parents and 78 percent teachers believed that children having ADHD were truant and 95 percent felt that these children are lazy too.

## **Conclusion**

The main aim of the study was to check the level of awareness among people in rural areas on Attention Deficit Hyperactive Disorder (ADHD) and improve their knowledge on the same. Results indicate that the level of awareness among them on ADHD was zero percent. The effectiveness of awareness program was positively reflected in the responses of the selected samples. All the respondents selected were from the remote areas of Ernakulam city, so it is believed that they could pass on the information gained by them to others as well. However it may be concluded that the awareness programme was beneficial to the selected sample and the level of awareness on ADHD among them had improved.

**Limitation of the Study:**

- Awareness programme alone may not seem to be effective for a long time, if follow up is not conducted.
- A comparative study assessing the knowledge of parents and teachers was not conducted.

**Recommendations for further Research:**

- This study could be implemented on a large sample
- Awareness programme on ADHD can be conducted in rural and urban areas.

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# APPENDICES

## APPENDIX I

**PRE-QUESTIONNAIRE TO STUDY THE LEVEL OF AWARENESS OF  
ANGANWADI TEACHERS AND PARENTS OF PRESCHOOLERS ON  
ATTENTION DEFICIT HYPERACTIVE DISORDER (ADHD)**

**(A) GENERAL INFORMATION**

- 1) Name:
- 2) Age:
- 3) Occupation:
- 4) Family Details:

Sl. No	Name of the family members	Occupation	Educational qualification

**(B) INFORMATION OF ADHD**

5) Are you aware of the term ADHD?

Yes  No

6) Do you think ADHD is common childhood behaviour?

Yes  No  Don't know

7) Do you think adults can also be affected by ADHD?

Yes  No

8) Can ADHD co-exist with other conditions?

Yes  No  Don't know

If yes, what are they?

9) Are you aware of the symptoms of ADHD?

Yes  No

If yes, list out:

10) Do you think ADHD is misinterpreted and misjudged?

Yes  No  Don't know

11) Do you know the causes of ADHD?

Yes  No  Don't know

If yes, list out:

12) Do you think genes play a role in the cause of ADHD?

Yes  No  Don't know

If yes, list out:

13) Are you aware at what age ADHD symptoms usually appear?

Yes  No  Don't know

If yes, which age:

14) Do you think environment plays a role in the cause of ADHD?

Yes  No  Don't know

15) Do you think food additives have a role in ADHD?

Yes  No  Don't know

16) What is your idea about the treatment available for ADHD?

17) Do you think medications can treat ADHD?

Yes  No  Don't know

18) Are you aware of any side effects occurring due to medication in ADHD?

Yes  No  Don't know

19) Is there any therapy for ADHD treatment?

Yes  No  Don't know

If yes, describe:

20) Do you think that ADHD children understand verbal directions as well as their peers?

Yes  No  Don't know

21) Do ADHD children have difficulty in verbally expressing him/her self?

Yes  No  Don't know

22) Do you think hyperactivity is a significant problem in ADHD children?

Yes  No  Don't know

23) Are ADHD children often engaged in physically dangerous activities?

Yes  No  Don't know

24) Do you think ADHD children often blame others for their own mistakes?

Yes  No  Don't know

**(C) DEVELOPMENTAL FACTORS**

25) Does the mother's mental status during pregnancy have a hand in developing ADHD?

Yes  No  Don't know

26) Does the type of delivery have any role in causing ADHD?

Yes  No  Don't know

27) Is there any difference in the milestone of children with ADHD?

Yes  No  Don't know

28) Do you know whether any feeding problems in infancy stage of children with ADHD?

Yes  No  Don't know

29) Is it difficult to cuddle an ADHD child?

Yes  No  Don't know

Why if yes:

30) Do ADHD children having difficulties in sleep pattern during infancy?

Yes  No  Don't know

31) Are ADHD children more prone to accidents?

Yes  No  Don't know

Why:

32) Do you know the reason as to why ADHD children move quickly from one activity to the next?

Yes  No  Don't know

33) Do you think ADHD children have trouble in making and keeping friends?

Yes  No  Don't know

34) Who is the most affected by ADHD? Boys or Girls?

Yes  No  Don't know

35) What is the need for developing awareness on ADHD?

Don't know

#### **(D) PERSONAL CONDUCT DIFFICULTIES**

Tick the behaviour you think are formed by children having ADHD

36) Stealing

37) Running away from home

38) Lying

39) Laziness

40) Truancy

41) Cruelty to animals?

42) Initiating physical fight?

43) Physically cruel to others?

#### **APPENDIX IV**

### **POST-QUESTIONNAIRE TO STUDY THE LEVEL OF AWARENESS OF ANGANWADI TEACHERS AND PARENTS OF PRESCHOOLERS ON ATTENTION DEFICIT HYPERACTIVE DISORDER (ADHD)**



**(A) GENERAL INFORMATION**

44) Name:

45) Age:

46) Occupation:

47) Family Details:

Sl. No	Name of the family members	Occupation	Educational qualification

**(B) INFORMATION OF ADHD**

48) Are you aware of the term ADHD?

Yes  No

49) Do you think ADHD is common childhood behaviour?

Yes  No  Don't know

50) Do you think adults can also be affected by ADHD?

Yes  No

51) Can ADHD co-exist with other conditions?

Yes  No  Don't know

If yes, what are they?

52) Are you aware of the symptoms of ADHD?

Yes  No

If yes, list out:

53) Do you think ADHD is misinterpreted and misjudged?

Yes  No  Don't know

54) Do you know the causes of ADHD?

Yes  No  Don't know

If yes, list out:

55) Do you think genes play a role in the cause of ADHD?

Yes  No  Don't know

If yes, list out:

56) Are you aware at what age ADHD symptoms usually appear?

Yes  No  Don't know

If yes, which age:

57) Do you think environment plays a role in the cause of ADHD?

Yes  No  Don't know

58) Do you think food additives have a role in ADHD?

Yes  No  Don't know

59) What is your idea about the treatment available for ADHD?

60) Do you think medications can treat ADHD?

Yes  No  Don't know

61) Are you aware of any side effects occurring due to medication in ADHD?

Yes  No  Don't know

62) Is there any therapy for ADHD treatment?

Yes  No  Don't know

If yes, describe:

63) Do you think that ADHD children understand verbal directions as well as their peers?

Yes  No  Don't know

64) Do ADHD children have difficulty in verbally expressing him/her self?

Yes  No  Don't know

65) Do you think hyperactivity is a significant problem in ADHD children?

Yes  No  Don't know

66) Are ADHD children often engaged in physically dangerous activities?

Yes  No  Don't know

67) Do you think ADHD children often blame others for their own mistakes?

Yes  No  Don't know

**(C) DEVELOPMENTAL FACTORS**

68) Does the mother's mental status during pregnancy have a hand in developing ADHD?

Yes  No  Don't know

69) Does the type of delivery have any role in causing ADHD?

Yes  No  Don't know

70) Is there any difference in the milestone of children with ADHD?

Yes  No  Don't know

71) Do you know whether any feeding problems in infancy stage of children with ADHD?

Yes  No  Don't know

72) Is it difficult to cuddle an ADHD child?

Yes  No  Don't know

Why if yes:

73) Do ADHD children having difficulties in sleep pattern during infancy?

Yes  No  Don't know

74) Are ADHD children more prone to accidents?

Yes  No  Don't know

Why:

75) Do you know the reason as to why ADHD children move quickly from one activity to the next?

Yes  No  Don't know

76) Do you think ADHD children have trouble in making and keeping friends?

Yes  No  Don't know

77) Who is the most affected by ADHD? Boys or Girls?

Yes  No  Don't know

78) What is the need for developing awareness on ADHD?

Don't know

**(D) PERSONAL CONDUCT DIFFICULTIES**

Tick the behaviour you think are formed by children having ADHD

79) Stealing

80) Running away from home

81) Lying

82) Laziness

83) Truancy

84) Cruelty to animals?

85) Initiating physical fight?

86) Physically cruel to others?

87) Was the awareness class useful and informative to you?

Yes  No