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MULTI DISCIPLINARY APPROACH IN TREATING A GIRL CHILD DIAGNOSED WITH ATTENTION DEFICIT HYPER ACTIVE DISORDER AND OPPOSITIONAL DEFIANT DISORDER. A CASE REPORT

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ABSTRACT

Background: The principle features of Attention deficit hyperactivity disorder (ADHD) are hyperactivity, inattention and impulsivity. There is little evidence that confirms that Attention deficit hyperactivity disorder (ADHD) is arising purely from child rearing methods or social factors.76 % of children with ADHD has a family history, and the similar cases can be seen in the family. The symptoms of more than 50 % of ADHD children will continue in adulthood which requires treatment. Most of the causes appear for ADHD are categorizing the condition in a group of neurobiological and genetic disorders. This does not mean to say that the influence of environmental factors on the severity of disorder, impairment and suffering the child may experience is nil, but those factors do not give rise to the condition by themselves. The chances of getting associated problems like Oppositional Defiant Disorder (ODD) in children with ADHD is one-third to one-half and ODD is more common in boys with ADHD. These children are often non compliant, stubborn, defiant, have outbursts of temper, or become belligerent.

Case description: This is a case report of a child who diagnosed as attention deficit hyper active disordered and Oppositional Defiant Disordered (ODD) child, with finger contractures of right hand, which treated with medications, behavioral therapy, physiotherapy, relaxation techniques and music therapy as the means of rehabilitation.

Outcome measures: The evaluation measures used are Nine-hole peg test, behavioral rating scale and a seven items temperament evaluation scale.

Discussion: A holistic rehabilitation therapy increased attention, listening to suggestions, short stories and sleeping in time. Oppositional behaviors were also reduced both at home and school. Her relationships with parent, teachers and school mates were improved. Listening skills, attention, daily activities such as wake up, brushing, bathing, going to school in time were also improved. The single case study design limits generalization but this work supports THE role of multi disciplinary approach in testing ADHD children.

Key words: Attention Deficit Hyperactivity Disorder (ADHD), Oppositional Defiant Disordered (ODD), rehabilitation, Behavioral therapy, Physiotherapy, Music therapy, Yoga and Relaxation techniques.

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INTRODUCTION

Each case of attention deficit hyperactive disorder (ADHD) can be unique[1], with behaviors varying from child to child. Even though several similar subtypes are noticed, understanding of typical developmental neuropsychiatric disorders in ADHD is based on two principals. First one is children with high precision and the second one is with nested behavior[2]. For these reasons, it is critical for early childhood educators and therapy providers to diagnose and treat them. Stimulant medication and non-stimulant medication are there to treat Attention deficit hyperactivity disorder (ADHD) and most children treated with Attention deficit hyperactivity disorder (ADHD) medication have some side effects. Some of the side effects will disappear but some of them will be dangerous. Even though some studies proved the superiority of stimulant medications over behavioral therapy and routine community care, the evidences are not sufficient to ignore the influence of such therapies.

The cost of illness in case of attention deficit hyperactive disorder is also high when compared to other diseases[3] due to multiple domain involvement. For example, the educational domain is affected due to learning disabilities, juvenile justice domain is affected with conduct problems, health care and family domains will be affected due to asthma and other health conditions[4, 5]. Three folds of children with ADHD also showed an incidence of Convergence Insufficiency which is main limiting factor for concentrated reading and learning at school age[6]. The focus of researchers shifted from activity component problems, attention problems to poor impulse control or lack of inhibition which in turn leading to cognitive and social difficulties. Children with attention deficit hyperactive disorder (ADHD) and oppositional defiant disorder (ODD) have hyper activity, stubborn nature; uncontrolled tempers and they argue with adults and refuse to obey.

With these difficulties the children with ADHD will face serious problems of inter personal relationship and this will also affects their families, friends, and spoils the performance at school. This multisystem failure highlights the need for interdisciplinary approach in the research and management of ADHD [7, 8]. Attention Deficit Hyperactivity Disorder (ADHD) is sometimes apparent in preschool children and children in early school years. These children fail to control their behavior and/or pay attention. It is estimated that between 3 to 5 percent of children have attention deficit hyperactivity disorder (ADHD). This means that in a classroom of 25 to 30 children, it is likely that at least one will have ADHD. So, several researchers focused on ADHD and thousands of scientific papers have been published on ADHD and they had provided information on its nature, course, causes, impairments and treatments but it is still challenging problem to them. There is no complete remedy for ADHD. A child with ADHD faces a difficult but not insurmountable task ahead. In order to achieve his or her full potential and he or she should receive highly sophisticated interdisciplinary approach to treatment, including drug therapy, behavior modification, cognitive-developmental techniques, classroom intervention, and more [9].

ADHD children should receive help from psychological counselors, therapists and the public education system, need guidance and understanding from parents. This case study offers information on ADHD and its management, including information on medications and behavioral interventions, as well as helpful resources on educational options. Because ADHD often continues into adulthood and this case study contains a section on the diagnosis and treatment of ADHD to a child aged about 5 years. She was diagnosed as ADHD along with ODD.

Case Report:

A 5 years girl child was seen in physiotherapy outpatient department due to her residual finger deformity which was not corrected completely after surgery. During physiotherapy sessions the child was noticed hyper active behaviors, oppositional to parents and therapists, pinching parents and therapist no contextually and provocatively. According to her mother baby was born with contractures of right index, middle and little fingers at metacarpo phalengial and proximal inter phalengial joints. All milestones were attained at appropriate age. Between two and half years to three years of age her Mother noted hyperactivity and oppositional behavior in baby. At the age of three and half years the child joined the Lowe Kinder Garden. At that time teachers were reported the baby is impulsive and hyperactive and she is not paying attention and she may have isolation behavior. She is not attentively sit in a place and always moving in class room. Gradually she was accustomed to school environment. At the age of four years she went for surgical releases of finger contractures. Parents and grandparents stated that they have neglected the child's behavior and they were thinking that this may be due to petting. So that she became more stubborn. From physiotherapy the baby was referred to psychiatry consultation. In a national institute she was diagnosed as a case of Attention Deficit

Hyperactivity Disorder (ADHD) with Oppositional defiant disorder (ODD). The baby is also having hyperactivity Presents with symptoms like distractibility, stubbornness, and temper outburst in the context of demands not being met, since the age of two years. The interviewers also diagnosed Behavioral inhibition in baby's father. After one month the parents visited physiotherapy department once again with a prescription for three month treatment with Methylphenidate with a dose of 5 mg for 3 months. In national institute the child was given behavioral therapy for one month along with medications.

Multi disciplinary treatment:

After careful examination and evaluation a variety of problems were noticed in this child. She is having a severity of 96 on behavioral rating scale out of 140 and 53 score on a 70 point personality evaluation scale. Finger dexterity was measured with Nine-hole peg test. The time taken to complete the task at initial assessment was 107 seconds. During the test child was noticed attention deficits. With this the plan of action was shifted to a multidisciplinary approach which aimed to behavioral, emotional, physical and social problems. A treatment plan was designed with the help of school teachers, yoga teacher, psychiatrist and physiotherapist. The child was given physiotherapy for finger contractures by means of wax and mobilizations, peg board activities, stretching for long flexor of forearm and fingers, daily training of writing, and finger dexterity. And these exercises were withdrawn after 20 days due to fever and sever illness of the child. The illness is due side effects of medication and parents stopped medications after one month with a telephonic confirmation from the psychiatrist in national institution. Physiotherapy sessions were restarted after resolving of side effects. Physiotherapy was given for 4 days in a week for 10 months.

Yoga[10], deep breathing exercises and music therapy[11] sessions were given 3 days in a week for 10 months. In these classes she uses to practice pranayama and meditation. Relaxation exercises were also clubbed with these techniques. Teachers in the school were requested to monitor her behavior closely and record any observable changes are noticed. Mother was trained behavioral therapy at psychiatric institute and continued make the child to practice the behavioral therapy at home. Grandparents were asked not to pamper the child during therapy sessions. The reports of timely reviews conducted by parents were showing improvements in attention span and personality of the child. We asked the parents to record the behavioral changes observed during the course of treatment. Initially parents are instructed to record at a timely interval of one week for three months then twice in a month and then every month. The changes in initial recordings and recordings at the end of 10th month after treatment were analyzed.

Examination:

Finger dexterity was assessed by using Nine-hole peg test[12]. Before the treatment sessions stared the time taken to complete the task was 107 seconds. After 10 months of treatment the time taken to complete Nine-hole peg tests was recorded as 24 seconds.

Behavioral assessment was done by using a behavioral rating scale[13], to have an accurate view of the child's problem. The child has problem in activities like playing alone, during meals time, in public places with huge gatherings like shopping malls and churches, in doing toileting activities, and during bedtime. The child had a mild problem in all the aspects before the treatment. But the child showed a significant improvement in all the aspects after treatment of ten months. The child specially improved in socializing, her personal body care activities and feeding activities.

The temperament or personality evaluation was done by using a seven item scale where each item has a maximum of 10 points. The scale consists of the questions like, does the child scream or yell instead of speaking softly, does the child grab things from others probably by beating them etc. a total score of 25 or more indicates that the child is a problematic and the scores below 25 denote that the child has normal coping strategies. Before the treatment, the child had a score of 53 and after the treatment the score is 30 with a noticeable change in the emotional behavior, willingness to share her belongings with peers, improvements in concentration/ attention span. Hence behavioral therapy, though very time consuming and frustrating proved to be a better help than other therapies with no side effects.

Now she is able to play for 30-minute continually without any attention deviation. According to patient parents this therapy increased attention, listening to suggestions, short stories as well as daily activities such as wake up, brushing, bathing, going to school in time, and sleeping in time with calmness, also decreased oppositional behavior both at home and at school.

DISCUSSION

Researchers are not able to confirm the causes of ADHD, like many other illnesses the genes play a large role. In addition to genetics, ADHD may

results from a combination of factors and researchers are looking at possible environmental factors, and are studying how brain injuries, nutrition, and the social environment might contribute to ADHD. Therefore, evaluation of children suspected of having ADHD needs to be a multistep and multidisciplinary process. Any diagnosis should be based on a complete medical examination and history, information gathered by interviews with a number of persons who know the child and observations made in different naturalistic settings at different times and scores on parent and teacher rating scales. A clinical criterion for the diagnosis of adult ADHD (the Utah Criteria) which combined both past history of ADHD and current evidence of ADHD behaviors[14]. Atomoxetine (Strattera) was tested in controlled studies in both children and adults which found to be effective[15]. Preschool age children are infrequently diagnosed with ADHD. The medication alone cannot cure the children with ADHD[16].

In this case parents noticed adverse effects like pyrexia and lethargy at 4th week of medication. Parents discontinued medicines after telephone consultation with psychiatrist. Medication therapy for children with ADHD involves the intake of a substance which alters brain chemistry and hereby changes the outward behavior of the affected child. Usually the most commonly administered medications are stimulants. Stimulant medications come in different forms, such as a pill, capsule, liquid, or skin patch. Some medications also come in short-acting, long-acting, or extended release varieties in which the active ingredient is the same, but it is released differently in the body. Several studies were estimated that between 30% and 70% of children with ADHD will continue to exhibit symptoms in the adult years[17]. Family members of children being treated with ADHD medication should read the medication guides and talk to their child's doctor if they have any questions or concerns[18].

Behavioral parent training studies includes parent Training, child-focused Treatment, school-based interventions[19, 20, 21]. Living with ADHD child is challenging because there is no cure for ADHD, but to achieve good results in this child mother was asked to manage the symptoms of ADHD with appropriate moral support, educational support and advice, walking with child, telling short stories and spiritual themes and conducting yoga classes daily in the morning. In this case study mother observed the following improvements like the child herself is going to sleep in time at night, going to school in time regularly, she is attentively listening short stories and spiritual themes including instructions, she is enjoying in the events of social occasions and shopping etc.

Parents are child's best advocate, to be a good advocate for child, they should learn as much as they can, about ADHD and how it affects the child at home, in school, in social situations. If a child has shown symptoms of ADHD from an early age and has been evaluated, diagnosed, and treated with either medication or behavior modification or a combination of both, when a child enters the school system, let his or her teachers know. In a new world away from home teachers will be better prepared to help the child. If, after a child enters school and is experiencing difficulties that lead parents to suspect that he or she has ADHD, parent can either seek the services of an outside professional or parent can ask the local school administration to conduct an evaluation. Some parents prefer to go to a professional of their own choice. But it is the school's obligation to evaluate a child that the suspect has ADHD or some other disability that is affecting not only their academic work but their interactions with classmates and teachers.[22, 23]

So the scope of education system should also change. Teachers should be given training in identifying special children and coping strategies with these children. Once the child has been diagnosed with ADHD and qualifies for special education services, the school must assess the child's strengths and weaknesses and design an Individualized Educational Program[24] (IEP).Parent should be able periodically to review and approve their child's Individualized Educational Program (IEP). In this case scenario the school teacher has given proper training of behavioral modulation therapy and evaluation techniques. According to school faculty after rehabilitation the child improved in her school performance and she became more alert in classes and concentration is also improved.

This case report is having some limitations like irregular therapy sessions; discontinuation of medications, the behavioral therapy was not given by experts. Long duration of the study is also a limitation of this study where the influences of external factors of development are not concentrated. Even though the medications stopped, the child recovered in a long term this can give strength to multidisciplinary therapy approach of treating children with ADHD. However there is less evidence to confirm the results shown in this case report, one should not ignore the role medication in treating ADHD. There exist a lot of studies which confirms the

importance of medications[25, 26]. In this case the discontinuation of medications due to side effects should be considered as a part of therapy but not as negligence.

CONCLUSION

In this case report the reviews given by the parents of 5 years child with ADHD in response to the selected therapies were analyzed and patient improvement in various behavioral aspects were recorded. A holistic rehabilitation therapy increased attention, listening to suggestions, listening to short stories and sleeping in time including calmness. Oppositional behavior was also reduced both at home and at school. Improved her relationships with parent, teachers and school mates and also improved listening skills including attention. Improved daily activities such as wake up, brushing, bathing, going to school in time were also improved. So the perspective of treating children with ADHD should change more towards a multidisciplinary approach rather than inflexible.

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Appendix – 1