ISSN: 0975-3583, 0976-2833 VOL15, ISSUE 5, 2024

STUDY ON PREVALENCE OF ATTENTION-DEFICIT HYPERACTIVITY DISORDER IN CHILDREN

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ABSTRACT

Background: Children with attention-deficit hyperactivity disorder (ADHD) may have considerable impairment in their ability to perform in a variety of contexts. The combined prevalence of ADHD worldwide is 5.29%. According to several research, the prevalence of ADHD in India ranges from 1.6 to 14%. Approximately 7% of school-age children have been diagnosed with ADHD.

Aim and Objectives: The objective of the present study is to find out the prevalence of attention-deficient hyperactivity disorder in primary school children.

Materials and Methods: The present study was conducted in the department of psychiatry in collaboration with department of paediatrics, at Prasad Institute of Medical Sciences, Lucknow for the duration of one year. CARS was given to the teachers and to the parents of the children. Based on the score obtained as per the teachers rating presence of ADHD was identified. For the children identified in the study as having ADHD, the CBQ A and B were given to the teachers and Personal Information Questionnaire to the parents to identify the co-morbid conditions. CARS was given to both parents and teachers to compare the teacher's and parent's rating score. **Statistical analysis:** The data was analysed using SPSS Windows Version 16 and online GraphPad software. Mean and Standard Deviation and student's *t* test were used for statistical analysis.

Discussion: In the present study, 880 primary school children were included based on inclusion criteria. Out of 880 children, 480 were males and 400 were females. Out of 880 children 78 children were found to have ADHD based on CARS as per teachers rating. Th prevalence of ADHD among primary school children aged 6-12 years, was found to be 8.86% as presented in Figure 1. Figure 2 shows the distribution and prevalence according to the type of ADHD. In the present study it is found that, out of 78 children with ADHD, 41 (52.56%) children had inattentive type (most common), 26 (33.33%) children had combined type, 11 (14.10%) had hyperactive impulsive type. The overall prevalence of Inattentive, Combined and Hyperactive Impulsive were 4.65%, 2.95% and 1.25% respectively. Figure 3 shows the distribution of co-morbidities in ADHD. It is seen that 11.5% children had Conduct Disorder, 15.3% oppositional defiant disorder, 33.33% depression, 16.66% multiple comorbidities and 23.07% children had no comorbidities.

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Conclusion: In the present study, the prevalence of ADHD was found to be 8.86% and the most common type of ADHD was inattentive type. Children with ADHD typically underachieve academically, repeat grades, drop out of school, have difficulties with peer relationships, disrupt family functioning and a clear negative effect on the self-esteem, so it must be diagnosed at the earliest because thousands of children otherwise go undiagnosed, untreated and face long term consequences of the disorder. This study indicates the importance of early identification and thus helping in early intervention of this disorder.

Key-words: attention-deficit hyperactivity disorder, inattentive, combines, hyperactive impulsive and primary school children.

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INTRODUCTION

Children with attention-deficit/hyperactivity disorder (ADHD) may have considerable impairment in their ability to perform in a variety of contexts. The combined prevalence of ADHD worldwide is 5.29% [1]. According to several research, the prevalence of ADHD in India ranges from 1.6 to 14% [2]. Approximately 7% of school-age children have been diagnosed with ADHD [3]. Behavioral issues in the affected children vary according on the kind of ADHD, co-morbidities, and the kind of care they receive. The main drawbacks of the earlier research were the small sample size, the use of inconclusive diagnostic criteria, and the fact that the samples were clinically referred cases rather than community cases [1, 4]. Information about the prevalence of ADHD in India, particularly in northwestern India, is sparsely available. Therefore, the purpose of the current study is to choose neighborhood elementary school students. The study set out to determine the prevalence of ADHD in elementary school students and to compare the distribution of ADHD across age groups, genders, and socioeconomic statuses, and to determine whether co-morbid psychiatric disorders were present in ADHD students.

MATERIALS AND METHODS

Study setting

The present study was conducted in the department of psychiatry in collaboration with department of paediatrics, at Prasad Institute of Medical Sciences, Lucknow for the duration of one year.

Study design: cross-sectional study

Sample size: 1000

Study subjects: The sample consisted of 1000 primary school children aged between 6-12 years of age selected from 4 different schools in Lucknow district. Out of the 1000 children 880 were included, 220 children's parents did not provide consent so were not included.

Sampling method: convenience sampling

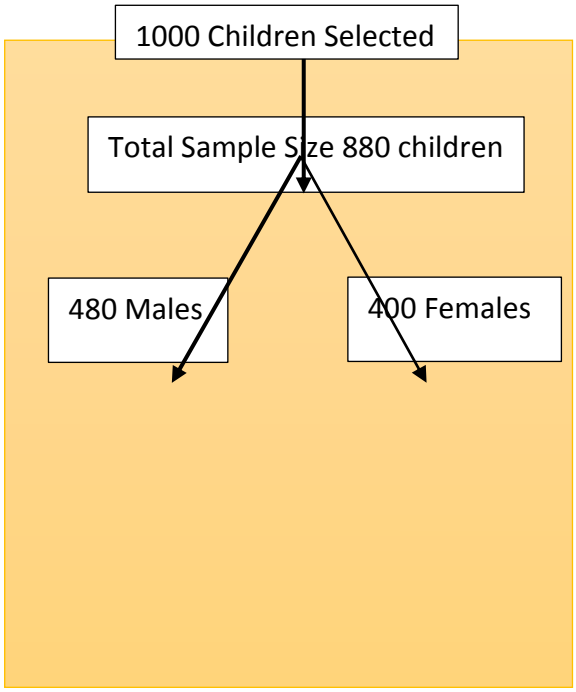
Inclusion Criteria: Primary school children aged 6-12 years of both the genders willing to give voluntary consent.

ISSN: 0975-3583, 0976-2833 VOL15, ISSUE 5, 2024

Data collection and tools used:

a. Conner's Abbreviated Rating Scale (CARS) This is a rating scale that consists of several behavioural parameters for the diagnosis of ADHD. This was rated by the parents and the teachers.
b. Children's Behaviour Questionnaire (CBQ, Rutter) This questionnaire was given to the teachers of the children identified in the study as having ADHD. It consists of two separate questionnaires, namely (i) CBQ-A, (ii) CBQ-B. CBQ-A is used for assessing their academic performance, reading and writing difficulties, and need for psychiatric guidance, and CBQ-B is used for assessing their behavioural difficulties, if any
c. Personal Information Questionnaire This is a questionnaire designed for the current study. It was given to the parents of the children identified in the study as having ADHD to elicit drug history and assess social behaviour, academic performance and family history of ADHD or any other psychiatric disorder, and presence of recent stressor, etc., if any

CARS was given to the teachers and to the parents of the children. Based on the score obtained as per the teachers rating presence of ADHD was identified. For the children identified in the study as having ADHD, the CBQ A and B were given to the teachers and Personal Information Questionnaire to the parents to identify the co-morbid conditions. CARS was given to both parents and teachers to compare the teacher's and parent's rating score. **Statistical analysis:** The data was analysed using SPSS Windows Version 16 and online GraphPad software. Mean and Standard Deviation and student's *t* test were used for statistical analysis.



RESULTS

In the present study, 880 primary school children were included based on inclusion criteria. Out of 880 children, 480 were males and 400 were females. Out of 880 children 78 children were found to have ADHD based on CARS score as per teachers rating. Th prevalence of

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ADHD among primary school children aged 6-12 years, was found to be 8.86% as presented in Figure 1.

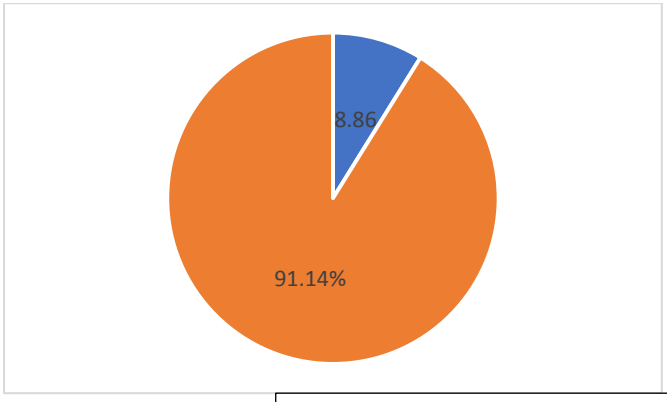

Figure 1: Prevalence of ADHD

Figure 2 shows the distribution and prevalence according to the type of ADHD. In the present study it is found that, out of 78 children with ADHD, 41 (52.56%) children had inattentive type (most common), 26 (33.33%) children had combined type, 11 (14.10%) had hyperactive impulsive type. The overall prevalence of Inattentive, Combined and Hyperactive Impulsive were 4.65%, 2.95% and 1.25% respectively.

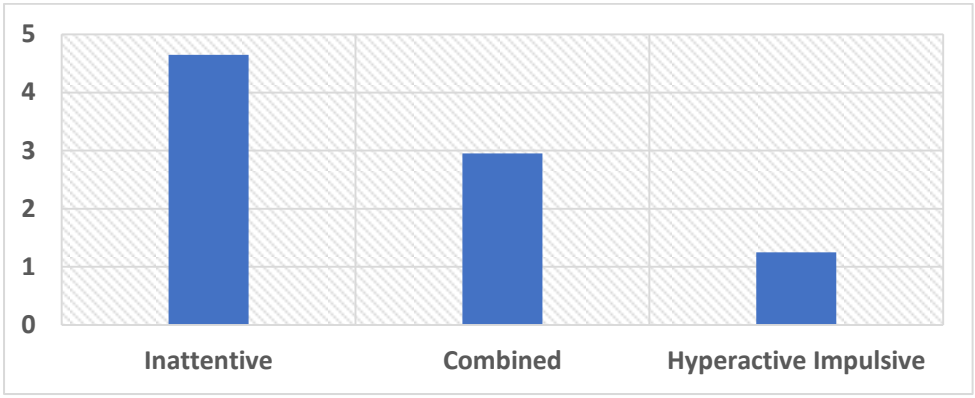

Figure 2: Prevalence according to the type of ADHD

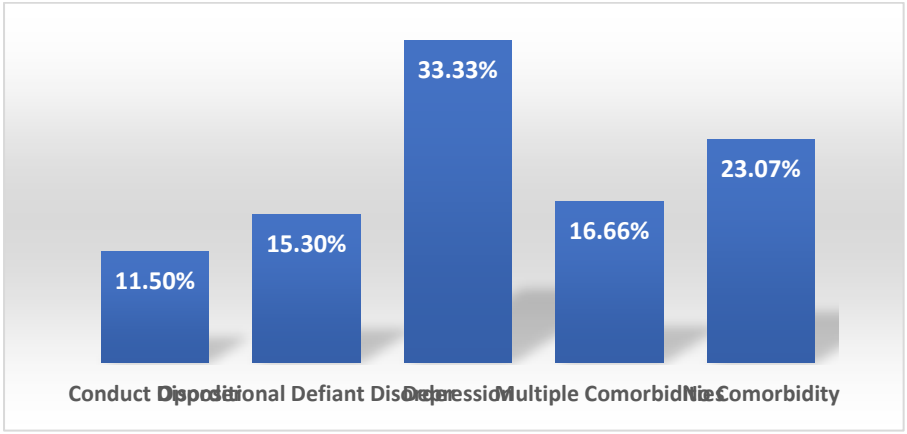

Figure 3: Prevalence of comorbidities in ADHD

Figure 3 shows the distribution of co-morbidities in ADHD. It is seen that 11.5% children had Conduct Disorder, 15.3% oppositional defiant disorder, 33.33% depression, 16.66% multiple comorbidities and 23.07% children had no comorbidities.

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DISCUSSION

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CONCLUSION

In the present study, the prevalence of ADHD was found to be 8.86% and the most common type of ADHD was inattentive type. Children with ADHD typically underachieve academically, repeat grades, drop out of school, have difficulties with peer relationships, disrupt family functioning and a clear negative effect on the self-esteem, so it must be diagnosed at the earliest because thousands of children otherwise go undiagnosed, untreated and face long term consequences of the disorder. This study indicates the importance of early identification and thus helping in early intervention of this disorder.

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