



Arithmetic achievement of the attention defici hyper activity disorder students in primary schools of Guwahati, India.

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Abstract

Education is being increasingly regarded as a fundamental right of every child, but a large number of children suffer from a group of disorder such as learning disabilities, conduct disorder, attention deficiency, hyper activeness etc. which in turn hampers in realizing this fundamental right. In this study an attempt has been made to study the achievement of the ADHD student (N=100) of primary school of Guwahati. Purposive sampling method was adopted. The study reveals that higher the level of ADHD, lower is the performance level with respect to Arithmetic.

Keywords: ADHD, Primary school, Achievement

1. Introduction

Education is being increasingly regarded as a fundamental right of every child, but a large number of children suffer from a group of disorder such as learning disabilities, conduct disorder, attention deficiency, hyper activeness etc. which in turn hampers in realizing this fundamental right. With the increase in awareness level, these challenges are being identified more and more and it has emerged that quite a considerable numbers of children actually suffer from these kind of disorders. Some of the significant studies carried out in this context are, Gada's(1987) study carried out on 321 school children aged 5-10 years which reported that 8% of the total children had an ADD with Hyper activity according to the DSM-III (1980) criteria. Another study conducted by Dr. Chawala from the department of Psychiatry of All India Institute of Medical Sciences estimated that 6% children of school going age had learning disabilities.

Among the recent studies, Wendy Johnson, Matt McGue and William G.Iacono(2005) University of Minnesota –a twin Cities, studied Disruptive Behaviour and School Grades: Genetic and Environmental Relation in 11-Year olds and found that disruptive behaviour (Hyper activity, attention and impulsivity) may be associated with poor academic achievement due to covariance with attention problems and low IQ. In Korea, Hong Yonghee(2008) studied "Teachers' perceptions of young children with ADHD in Korea", which examined Korean early childhood teachers' understanding of behavioural characteristics of children with ADHD, the challenges and difficulties they faced in dealing with such children, the kind of support they needed etc.. The purpose of the study was to provide descriptive information on how teachers in Korea perceive ADHD and also to facilitate further studies on children with ADHD.

Therefore, after going through some of these

studies on ADHD and their learning disability, the researcher feels that there is scope for conducting ADHD related studies in this region too. The objectives of this study are listed below:

2. Objectives

1. To study the achievement of ADHD students in Arithmetic.
2. To study the relationship between ADHD score and achievement of ADHD students in Arithmetic.
3. To study the problem faced by the ADHD students in Arithmetic.

3. Term defined

ADHD: ADHD (Attention deficit hyper activity disorder):

According to DSM-IV, a person with ADHD will have the following symptoms like Inattention and Hyper activity at least for 6 months. These children often fails to give close attention to details, lose their belongings, makes careless mistakes in school activity and can not sustain attention in tasks or play activities. They tend to talk excessively and interrupt others.

Primary school

Primary school in this region consists of Class I to Class V. In this study, the investigator took into consideration the students of class III and IV only.

Achievement

The term refers to the degree or level of success attained in some specific tasks, especially scholastic performance. Effectiveness of any educational system is measured to the extent the student achieves in that process. In general achievement means academic achievement of the student at the end of an educational programme.

4. Design of the study

4.1 Method

For this study the descriptive survey method of research had been used.

4.2 Population and sample

The sample for the study had been selected by using purposive and simple random sampling method. The sample consists of 100 ADHD students from seven

provincialised primary schools of Guwahati, Assam.

4.3 Tools used

The adopted version of Hawthorne's ADDES (Attention Deficit Disorder Evaluation Scale) was used to identify and determine the level of attention deficiency hyper active student in the present study.

Interview schedule for the teacher to know the problem face by the students in Arithmetic.

4.4 Statistical techniques

Mean, SD, Percentage and Co-efficient of r were used in the present study to analyze the data.

4.5 Delimitation of the study

- The study is delimited to only 7(seven) provincialised primary school.
- The study is delimited to class III and IV only.

5. Results and Discussion

Elementary Education Board of Assam has divided Guwahati into four different circles. Out of these four circles, 7 (seven) schools from circle-III (Three) were selected for the study. All the 7 (seven) schools are of vernacular (Assamese) medium and provincialised under Elementary Education Board of Assam. The investigator purposefully selected these schools because of the uniformity in syllabus, procedure for examination, session etc. To identify the ADHD students, the investigator approached the headmaster / headmistress of the schools and requested them for their co-operation. The class teacher and the subject teacher of mathematics were also approached and they were explained the basic concept of ADHD and its characteristics. After that they were requested to identify the students who exhibited these characteristics from their respective classes. Then adopted ADDES behavior check list was given to them to rate every identified ADHD students. To identify different level of ADHD from the collected data, Percentile of 33 and 67 was used and the corresponding calculated values were found to be 90 at Percentile 33 and 104 at percentile 67 respectively. Therefore the scores above 104 have been considered with presence of High level of ADHD and scores below 90 have been considered

with presence of low level of ADHD. Then their achievement score (score obtained in the first unit test where total score = 30) in Arithmetic were collected.

Table-1 : Identified ADHD students in the selected Primary school
(N = 100)

Name of the school	Total number of students	Number of Identified ADHD students	Percentage of ADHD students
Arya Pathshala LPS	365	15	4.1
Dhirenpara LPS	439	17	3.87
Dakhin Sarania LPS	281	13	4.62
243 no Betkuchi LPS	274	10	3.64
Rupnagar Jr. Basic School	430	16	3.72
Dakhin Goan LPS	313	14	4.47
Ambari Sishu Vidyapith	337	15	4.45
Grand Total and Percentage	2439	100	4.1

From the above table it can be observed that about 4.1% students have ADHD, which as per the publication of NIHM's(2009) which says that 3 -5% of children have attention deficit hyperactivity disorder(ADHD) in USA.. In 2011, Associated Chambers of Commerce and Industry of India made a

survey in 10 cities about the occurrence of ADHD in children. The study is titled as "Rising numbers of ADHD kids in metropolitan cities". Dr B. K. Rao, Chairman, ASSOCHAM Health Council said "Prevalence of children diagnosed with ADHD has gone up from 4% to 11% in the past six years (New Delhi).

Table-2 : Mean , SD, and 'r' value ADHD students in terms of Achievement in Arithmetic

Variable	M	SD	r	Significance level
ADHD	97.76	21.6	-0.68	0.01 level
Maths score	10.56	4.7		

r = co-efficient of correlation.

Significance level $P > 0.01$

Mean value of ADHD is very high where as the mean value of mathematics is very low. SD value of ADHD reveals that there is lot of variation in the level of ADHD.

From the table, it is observed that there is a negative substantial correlation between the ADHD and score obtained by the students in Arithmetic. These

signifies that as the level of ADHD increase or go up, the scores in Arithmetic of the students decrease or go down. This findings of the investigator was at per with the study of many famous researchers, who confirmed that students with ADHD show diminishing performance in mathematics computation .

Table-3 : Problem Faced by the students in Arithmetic task

Variables	Situation	% of problem faced
Arithmetic	Fails to understand the instruction	92%
	Fails to follow necessary steps / skip steps in solving arithmetical problem	87%
	Fails to do the necessary computation	79%
	Makes mistake while copying number / text from book, black board etc.	75%
	Needs repeated instruction	85%
	Gets easily frustrated	83%
	Handles object during instruction	77%

To study the problems encountered by the ADHD students, the math's teachers were interviewed. They revealed that Students with ADHD finds difficulty in solving arithmetical problem which involves more number of steps. They also commit mistakes too often with figures and also find it difficult in taking down methods of working out sum from the black board. They become quite easily frustrated with mathematical problem which require analysis and involves multiple steps.

6. Conclusion

The above study reveals that performance level in students with ADHD is inversely proportional to the level of ADHD and this is more pronounced in the

subject of Arithmetic. These student need lot of care and attention for enhancing their performance level. Adequate educational programme mixed with joyful activities will help them in increasing their level of performance. For this, they will need support from all quarters- parents, teachers, peers, knowledgeable psychologists, committed researchers and many others. Teachers need training for dealing with these students. Trained teachers can make them understand Arithmetic concepts by relating problems with their surroundings. They can help them in organizing their thinking by immediate feedback and motivate them constantly to persist in completing a tedious task.

References

- Ahlawat, Neetu 2010: *Developmental psychology*, RBSA publisher, Jaipur.
- Coon, Dennis 2007: *Introduction to Psychology*, Akash Press Delhi.
- The Assam Tribune 2011: Guwahati, p 10, Sept 6, 2011
- Eisenberg, Daniel 2007: Perceptions of Academic skills of Children Diagnosis with ADHD, *Journal of Attention Disorder*, vol. 10 no. 4 p 390-397 .
- Gada, M, 1987 : A study of prevalence and pattern of ADHD primary school, *Children Indian journal of Psychiatry*.
- Garrett, Henry E: *Statistics in Psychology and Education*, 10th Indian reprint, Vakils, Feffer and Simons Ltd.
- Hong, Yonghee 2008: *Early Child Development and Care*, vol. 178 no. 4 p399-414 .
- Koul Lokesh : *Methodology of Research, 2nd edition*, Vikas publishing house, NIMH : Publication.
- Sinha, Chandana: *Behavioural disorder student in primary school in Greater Guwahati*, Ph.D thesis .
- Wendy Johnson, Matt McGue, 2005 : Disruptive Behaviour and School grades:Genetic and Environmental Relations in 11- Year-olds, *Journal of Educational Psychology*, vol. 97, no. 3. p391-405

