ORIGINAL RESEARCH

Analysis of specific learning disorders among children

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ABSTRACT

Background: In spite of normal intelligence, traditional schooling, intact hearing, vision, motivation, and sociocultural opportunity, learning disorders (LD) or specific learning disorders (SpLD) are a group of neurodevelopmental disorders that present in childhood as persistent difficulties in learning for efficient reading (dyslexia), writing (dysgraphia), or performing mathematical calculations (dyscalculia). The present study was conducted to assess specific learning disorders among children. **Materials & Methods:** 76 children of specific learning disorders of both genders were screened for visual or hearing difficulties. Neurological problems were evaluated as well. **Results:** Out of 76 children, boys were 40 and girls were 36. Deficits were right left confusion in 25, fine motor issues in 20 and difficulty in telling time seeing the clock in 31 children. 36 were right- handed, 25 were left- handed and 158 were mixed handed. Medium of instruction was Hindi in 31, English in 32 and other in 13. Gap between the onset of symptoms and the referral was <6 months in 21, 1-2 years in 29 and 2-4 years in 26. Comorbidities were ASD in 8, anxiety in 38 and ADHD in 30. The difference was significant (P< 0.05). **Conclusion:** One significant contributing factor to academic underachievement is a specific learning disability. When seeing children on a regular basis, health practitioners should be on the lookout for early indications of co-morbidities, especially ADHD.

Key words: intelligence, Children,Specific learning disability

INTRODUCTION

In spite of normal intelligence, traditional schooling, intact hearing, vision, motivation, and sociocultural opportunity, learning disorders (LD) or specific learning disorders (SpLD) are a group of neurodevelopmental disorders that present in childhood as persistent difficulties in learning for efficient reading (dyslexia), writing (dysgraphia), or performing mathematical calculations (dyscalculia).[1] These kids exhibit "academic problems" include reading slowly and poorly, missing lines while reading aloud, consistently spelling wrong, having messy, unreadable handwriting with poor sequencing, and being unable to do even basic arithmetic and subtraction.[2]

Approximately 5–15% of youngsters enrolled in school have this condition. Of all the learning disabilities, dyslexia affect 80% of people and is the most studied and frequent.[3] Gender differences are notable: boys experience developing dyslexia at a higher rate than girls (4:1). However, there are no appreciable distinctions between developmental dyscalculia and linguistic impairments.[4] Given the Indian context, little is known about SLD. It has been stated that among Indian primary school students, the incidence of dyslexia is 2-18%, dysgraphia is 14%, and dyscalculia is 5.5%. Its significance as a factor of academic underachievement has, however, just come to light. Learning disabilities are not uncommon. The unseen and ostensibly benign aspect of learning impairments may be their most socially relevant characteristic.Conflicting and delayed diagnoses are frequent, resulting in delayed intervention.[5] In the meantime, the public and family may grow intolerable to the youngster as a result of the unseen diseases. Nearly 5–15% of school-age children suffer with LD, which is thought to be inherited genetically. 80% of people who are classified as learning handicapped have dyslexia, which is the most prevalent and well-researched specific learning disability.[6]The present study was conducted to assess specific learning disorders among children.

MATERIALS & METHODS

The present study consisted of 76 children of specific learning disorders of both genders. Parental consent was obtained before starting the study.

Data such as name, age, gender etc. was recorded. Children who had visual or hearing difficulties were screened. Neurological problems were evaluated as well. An evaluation for occupational therapy was also conducted in order to search for sensory problems, incoordination, or hyperactivity. A semi-structured proforma was created that included the co-morbidities of the children, the referral pattern, and perinatal occurrences. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Total- 76		
Gender	**Boys**	**Girls**
Number	40	36

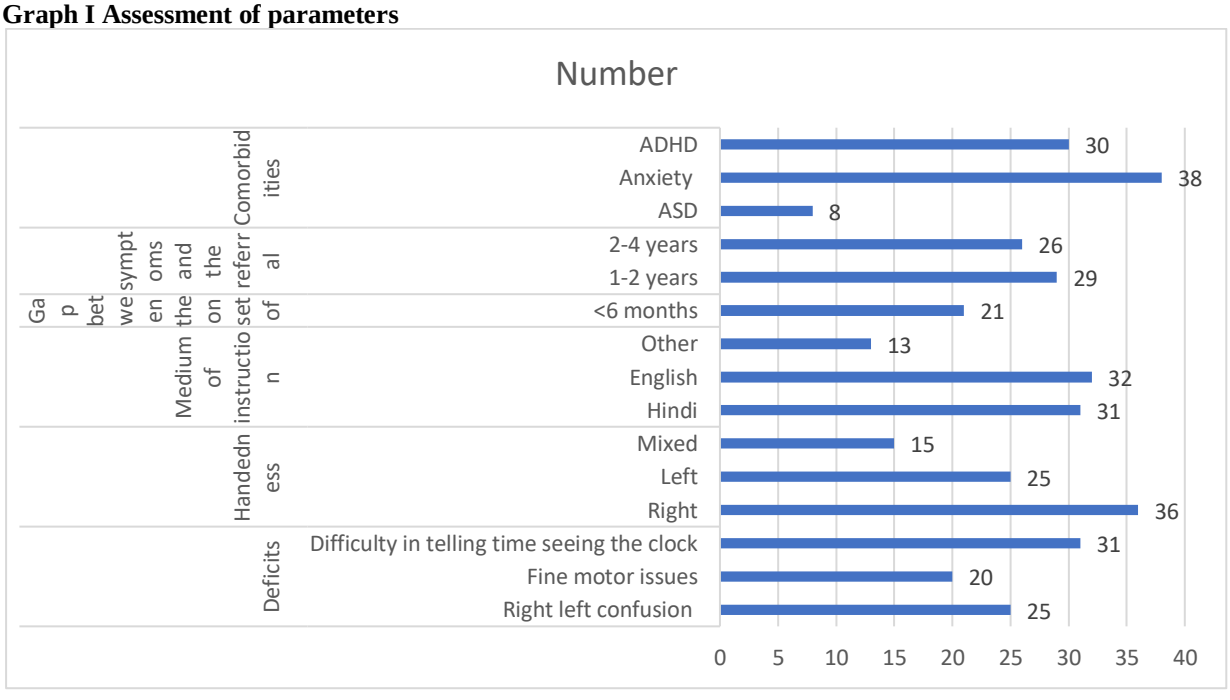
Table I shows that out of 76 children, boys were 40 and girls were 36.

Table II Assessment of parameters

Variables	Parameters	Number	P value
Deficits	Right left confusion	25	0.95
	Fine motor issues	20	
	Difficulty in telling time seeing the clock	31	
Handedness	Right	36	0.52
	Left	25	
	Mixed	15	
Medium of instruction	Hindi	31	0.02
	English	32	
	Other	13	
Gap between the onset of symptoms and the referral	<6 months	21	0.73
	1-2 years	29	
	2-4 years	26	
Comorbidities	ASD	8	0.04
	Anxiety	38	
	ADHD	30	

Table II, graph I shows that deficits were right left confusion in 25, fine motor issues in 20 and difficulty in telling time seeing the clock in 31 children.36 were right- handed, 25 were left- handed and 158 were mixed handed. Medium of instruction was Hindi in 31, English in 32 and other in 13. Gap between the onset ofsymptoms and the referral was <6 months in 21, 1-2 years in 29 and 2-4 yearsin 26. Comorbiditieswere ASD in 8, anxiety in 38 and ADHD in 30. The difference was significant (P< 0.05).

Graph I Assessment of parameters



DISCUSSION

There are several aspects involved in comprehending SLD. There is a correlation between school achievement and social variables such as mother education and socioeconomic stress. Dyslexia's genetic foundation has also been found.[7] Low birth weight (LBW) and prenatal stress are two examples of perinatal variables that might indirectly impact attention, resulting in ADHD, a common co-morbidity with SLD. In SLD, co-morbidity is more common than uncommon. Both behavioral disorders and ADHD are associated with dyslexia. About 40% of kids with ADHD also fit the diagnostic criteria for dyslexia, and the inattention component seems to be a key factor in this relationship.[8,9] Affective disorders, in particular depression, social skill deficiencies, low self-esteem, issues with peer relationships, a sense of helplessness, and low self-esteem are all strongly linked to SLD. There are two types of common behavioral indicators of learning disabilities: internalizing and externalizing.[10]Internalizing students exhibit behaviors that primarily impact them and are occasionally disregarded by others. Students that engage in externalizing behaviors tend to be identified as troublesome early and have a more noticeable impact on others around them. These two groups run the risk of being perceived as issues rather than as having issues.[11]The present study was conducted to assess specific learning disorders among children.

We found that out of 76 children, boys were 40 and girls were 36.Many teachers are reluctant to recognize emotional or behavioral issues and take preventative measures, according to Hallahan, Lloyd, Kauffman, Weiss, and Martinez.[12] Since anger and distress can impede learning, it has been discovered that behavioral and emotional control is essential to both academic performance and learning. However, behavior problems are typically treated with medication rather than school-based therapies. This is worrisome because LD is a risk factor for a number of bad life outcomes, including depression, mental health issues, social isolation, unemployment, juvenile delinquency, and school dropout. However, a student's capacity to deal with LD in an adaptive way is a better indicator of their life outcomes than the LD itself. In the context of a learning disability, coping is defined as the cognitive and behavioral strategies used to manage certain external and/or internal demands that are deemed tough. These internal issues and external academic strains are the examples of this.

We observed that deficits were right left confusion in 25, fine motor issues in 20 and difficulty in telling time seeing the clock in 31 children. 36 were right-handed, 25 were left- handed and 158 were mixed handed. Medium of instruction was Hindi in 31, English in 32 and other in 13. Gap between the onset of symptoms and the referral was <6 months in 21, 1-2 years in 29 and 2-4 years in 26. Comorbidities were ASD in 8, anxiety in 38 and ADHD in 30.Choudhari et al[13] evaluated the sociodemographic characteristics and other relevant factors in relation to learning disorders, as well as the prevalence of learning disorders in school-age children. The dyslexia assessment questionnaire (DAQ) was distributed to all 500 students in classes III through V, including all sections. 468 students returned the completed questionnaires. Just 68 kids with DAQ scores of at least four received the DST-J dyslexia screening tool and MISIC (Mallin's intelligence scale for Indian children) for IQ testing. The DSM IV-TR classification was used to validate the diagnosis of dyslexia in 48 students. 10.25% of people have learning disabilities (LD), with a higher prevalence in men than in women (11.40% vs. 7.14%). greater family members were left behind and there were greater birth problems in LD.When compared to the control group, LD experienced more delivery problems and had a higher percentage of left-handed family members. When it came to classroom behavior, kids with LD asked more questions than the control group, answered them less often, and paid less attention when taking notes.

In children with specific learning disabilities, Singh et al[14] identified the demographic profile, risk factors, co-morbidities, and referral patterns. The majority of the kids, who were in the 8–12 age range and attended English-medium schools, delayed seeking medical attention and were primarily recommended by their instructors for scholastic problems. Dyslexia, dysgraphia, and dyscalculia were the three disabilities that the majority of them possessed. 38.56% of kids suffered from ADHD. In many cases, co-morbidities such as developmental disorders, psychological stress on the mother, and fine motor and verbal delays were present in children with comorbid ADHD.

CONCLUSION

Authors found that one significant contributing factor to academic underachievement is a specific learning disability. When seeing children on a regular basis, health practitioners should be on the lookout for early indications of co-morbidities, especially ADHD.

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