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Short Communication

Self screening of learning disability among school going children in North India

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ABSTRACT

Introduction: Earlier literature has reported the importance of early identification of learning disabilities in school going children.

Materials and Methods: A total of 1056 students of secondary school recruited for the present study in the age range of 12 to 17 years from English medium CBSE schools of North India. A learning disability self screening tool was administered on all students participated in the present study.

Results: The outcome of the current study showed that almost 12% to 15% of students were having some component of learning disability.

Conclusion: The current study revealed that a good percentage of students were at risk of learning disability. The outcome of the study also showed that the few domains of learning disability is well correlated with other domain of learning disability which shows that improvement in one domain will enhance the other domains.

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1. Introduction

Learning disability is caused by environmental risk factors and multiple genetics. At the central nervous system level learning disability is associated with unusual structure and function, especially in the left hemisphere reading and language network.¹ Learning disability also involves phonological disorder as well as delay in language skill and processing speed.² Recently, neuroimaging methods which include functional and structural magnetic resonance imaging, neurophysiology, electrophysiology and diffusion tensor imaging have appreciably contributed to literature about the neurobiology of learning disability.

1.1. Need for the study

Being a neurological deficit in origin learning disability can go unidentified in school going children. Children

with learning disabilities can become frustrated by the problem of reading and writing. Children may show signs of psychological problems such as low self esteem, stress, anxiety and depression. Previous literature has reported a prevalence of learning disability ranges from 5 to 10%.¹ Early identification of learning disability can prevent associated disorders like delayed speech and language and phonological disorders. Earlier literature has reported prevalence of learning disability (15.7%) in South India.³ There is dearth of literature regarding the prevalence of learning disability in North India. So, there is a need to study the prevalence of learning disabilities in north India.

2. Aim and Objectives

The aim and objective of the study to find out prevalence of learning disability in North India.

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3. Materials and Methods

The study was approved by the ethics committee of Shri Jagdamba Charitable Eye Hospital, Sri Ganganagar, Rajasthan. A total of 1056 students of secondary school recruited for the present study including 659 boys and 397 girls in the age range of 12 to 17 years from English medium CBSE schools. All the participants were randomly selected based on their willingness to participate in the study. They were explained in detail about the purpose of the study. Informed written consent was taken from parents of the students participated in the present study. Learning disability self screening tool was administered on all participants participated in the study. Learning disability self screening tool is a tool with 13 questions with three point rating scale i.e. always, sometimes and never. Data was collected by undergraduate students of audiology and speech language pathology under the close supervision of qualified speech language pathologists with master degree in speech language pathology. The questions were “I learn class material slower than I would like”, “I spend more time studying than my classmate do”, “I have poor memory”, “Spelling is hard for me”, “I cannot find mistakes by my written work by myself”, “difficulty in expressing ideas in writing”, “difficulty saying unfamiliar words correctly while reading”, “difficulty understanding and remembering what I read”, “make error in remembering basic math facts”, “difficulty in solving math problems”, “difficulty using the right words when I explain my ideas to someone”. The percentage and proportion was calculated for responses of each question. In addition Pearson correlation was carried out using SPSS (version 17, IBM Corporation, Bengaluru, India) to study correlation between responses of questions.

4. Results and Discussion

The percentage and proportion was calculated for responses of each question. For the question “I learn class material slower than I would like”, 37% of students had responded always and 30% sometimes. 12% of the students have reported that they spend more time studying than their classmates and have the complaint of poor memory. 12% of the students were finding spelling difficulties. 26% students has reported deficit in expressing ideas. In the current study 14% of the students were having difficulty in saying unfamiliar word while reading and difficulty in understanding and remembering what they read. 11% students reported problem in mathematics. Almost 15% of the students have complained of difficulty in finding right word while explaining their ideas to someone. The finding of the present study showed that almost 12 to 15% students were having some component of learning disability.

Finding of Pearson correlation revealed moderate correlation between poor memory and spelling mistakes ($r=0.41$, $p<0.001$), which shows that students with poor

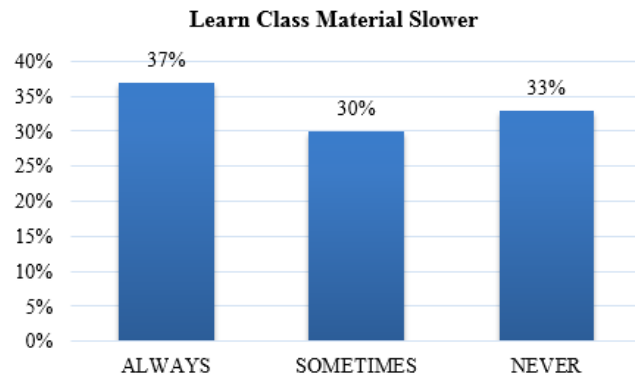


Fig. 1: Bar graph representing “Learn Class Material Slower”.

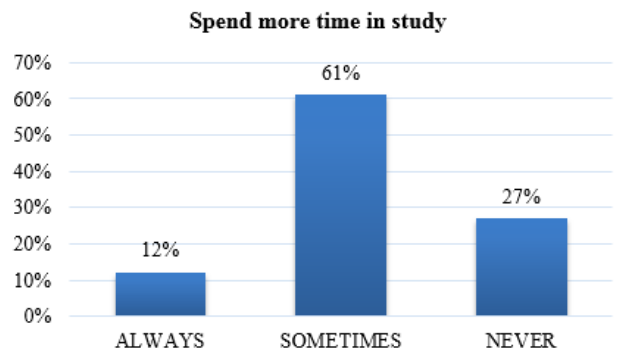


Fig. 2: Bar graph representing “Spend more time in study”

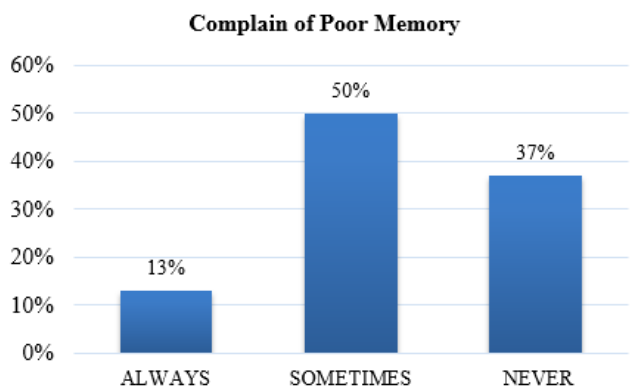


Fig. 3: Bar graph representing “Complaint of Poor Memory”

memory do frequent spelling mistakes. Similarly, moderate positive correlation ($r=0.43$, $p<0.001$) was also observed between difficulties in expressing ideas and understanding and remembering what they read.

Similar to present study, Mogasale et al.³ in 2012 reported 15.17% as prevalence of learning disability in a south Indian City. Similarly, Sridevi, George, Sriveni and Rangaswami in 2015 revealed that 19% of school going students were suffering from learning disability.⁴

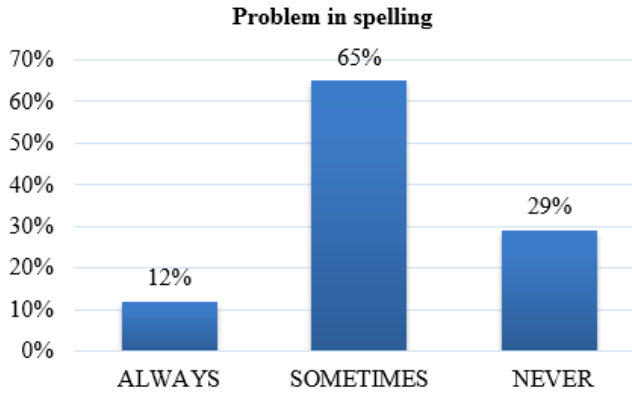


Fig. 4: Bar graph representing“Problem in spelling”

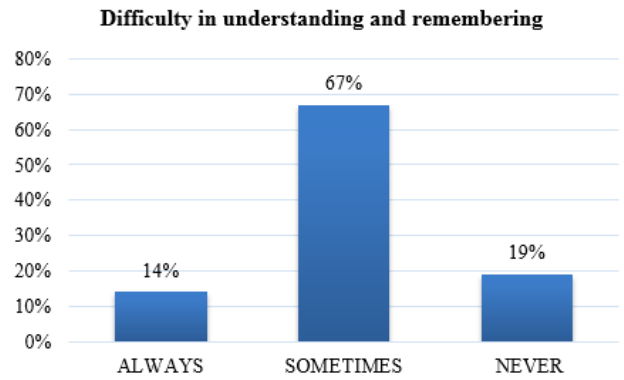


Fig. 7: Bar graph representing“Difficulty understanding and remembering”

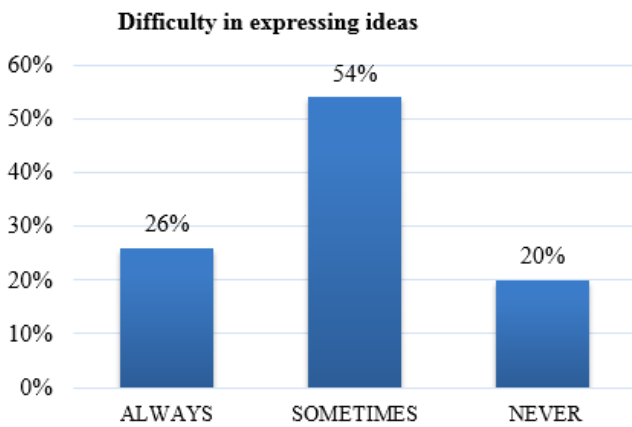


Fig. 5: Bar graph representing“Difficulty in expressing ideas”

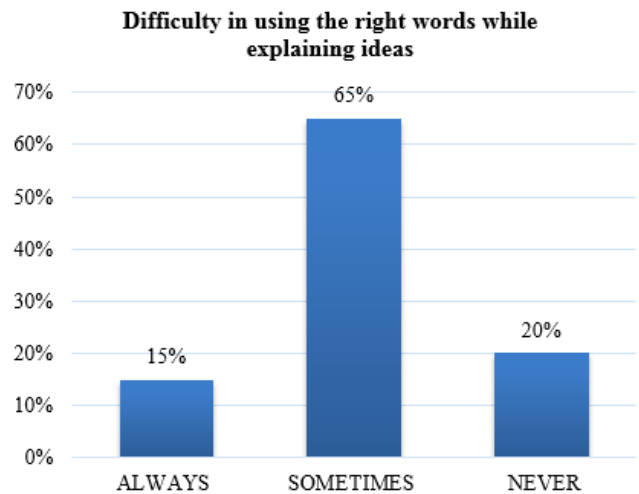


Fig. 8: Bar graph representing“Difficulty in using the right words”

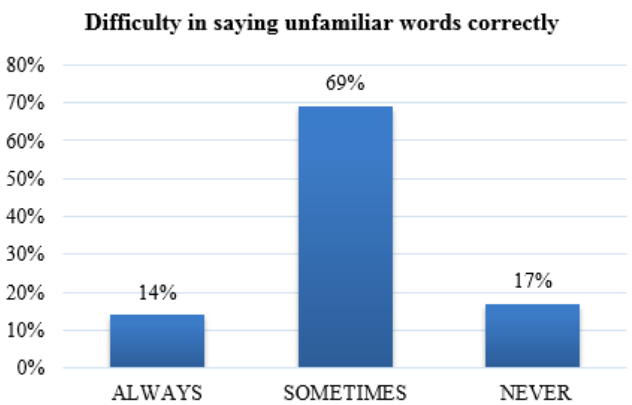


Fig. 6: Bar graph representing“Difficulty in saying unfamiliar words correctly”

5. Conclusion

The finding of the present study showed that almost 12% to 15% students were having some component of learning disability. The present study also showed that few domains of learning disability is well correlated with other domain of learning disability which indicates that enhancement in one domain will enhance the other domains. Early identification of learning disability helps to prevent its ill effects on overall development of child. Early identification of learning disabilities can pave the way for children to get the support they require to experience successful futures both in and out of school.

6. Conflicts of Interest

All contributing authors declare no conflicts of interest.

7. Source of Funding

None.

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