



Research Article

EXPLORING EARLY IDENTIFICATION AND LANGUAGE BASED READING DISABILITY IN PRESCHOOL CHILDREN

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ABSTRACT

Background: Language-based learning disabilities (LBLD) refers to a spectrum of neurodevelopmental-associated disorders that are characterized by cognitive and behavioral differences in comprehending, processing and utilizing spoken and/or written language(ASHA,2023).Preschool teachers are vital in identifying language difficulties during preschool phase. By wielding sensitive screening tools, they become the first part to screen Specific Language Disability (SLD). Early detection through preschool teacher is paramount, enabling timely intervention and enhanced support. Aim: 1) Early identification of language-based reading problems in preschool. Method: A online Screening Checklist "Early Identification of Language-Based Reading Disability" (Catts) was administered by 2 preschool teachers on 48 preschool children, This 10-15 minute assessment of seven key areas in potential reading difficulties was completed on children confirmed who are typically developing using the ICF checklist. Outcome and result: Preschool screening identified comprehension and speech perception/production as the most common weaknesses among the tested several domains. Through these screenings, preschool teachers identified a significant number of students (22.91%) who are potentially at risk for learning disabilities. Conclusion: Preschool teachers can effectively identify children at risk for specific learning disabilities early on by using checklists. This allows for early intervention within mainstream classrooms before potential issues become apparent.

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INTRODUCTION

Specific Learning Disorder (SLD) is a type of Neurodevelopmental Disorder that impedes the ability to learn or use specific academic skills (e.g., Reading, Writing, or Arithmetic), which are the foundations for other academic learning (DSM-5)². Dyslexia, a specific learning disability of neurobiological origin, is characterized by difficulties with accurate and/or fluent word recognition, poor spelling, and decoding abilities. These difficulties typically stem from a deficit in the phonological component of language, which is often unexpected relative to other cognitive abilities and effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience, which can impede the growth of vocabulary and background knowledge (International Dyslexia Association, IDA, 2002)⁵. Research and clinical practice demonstrate that reading disabilities are language-based, with language deficits often present during the preschool years serving as early indicators (Shukla & Agarwal, 2015)^{13a}. Developmental dyslexia is characterized by unexpected difficulty in reading in children and adults who otherwise possess the intelligence, motivation, and schooling necessary for accurate and fluent reading (Shaywitz, 1998)¹¹.

While dyslexia are recognized as a major educational and medical problem in developed countries, it has not received sufficient attention in developing countries. Anil Shetty and B. Sanjeev Rai (2014)^{12 a} reported that the incidence of dyslexia in India was 11.2%. Dyslexia, dyscalculia, and dysgraphia accounted for 72.76% of poor school performance cases in India (Mogasale *et al.*)⁹.

Preschool education, which caters to children aged 3–6 years, is the first stage of organized education and is provided in various settings such as Anganwadis, nursery schools, preschools, preparatory schools, kindergartens, Montessori schools, and preprimary sections of government and private schools (NCERT, 2020)¹⁰. Teachers play a crucial role in identifying learners' levels of performance, strengths, and needs, as well as monitoring progress and evaluating achievement (Ahmad, 2015)¹. However, for children with Learning Disabilities (LD), often referred to as an 'invisible disability', identification is more challenging compared to other disabilities. According to Shetty and Rai (2014)^{12b}, only one in three teachers in India had adequate knowledge of dyslexia.

Early identification and appropriate support are crucial for individuals with SLD to thrive and reach their full potential.

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Early intervention positively impacts children by teaching them how to respond appropriately, satisfying their curiosity, fostering an urge for exploration essential for learning, and empowering them over their surroundings. Ignoring learning problems in regular classrooms undermines the goals of universalizing elementary education and equalizing educational opportunities.

The study aimed to early identify language-based reading disabilities in preschool children through a sensitive screening checklist administered by preschool teachers.

NEED FOR THE STUDY

The preschool period is critical for language development, marking the beginning of formal education and literacy acquisition. During this stage, teachers play a vital role in recognizing and supporting children with developmental needs. Their daily interactions with students enable them to observe and identify potential challenges, particularly in language skills. Learning to read and write is a complex journey that starts early and builds on itself, requiring both informal learning at home and formal instruction in school. This process involves different parts of the brain working together, and literacy skills are crucial throughout life, affecting everything from school success to future jobs (Klass *et al.*, 2020)⁶ Often, preschool teachers are the first to detect difficulties such as dyslexia. Early identification of specific learning disabilities (LD) through teacher awareness is essential, as it allows for timely intervention and enhances the effectiveness of support services. The need to analyze language-based reading disabilities in the Indian population is evident due to the limited number of studies on this topic. Therefore, this study aims to bridge the gap in early identification of language based reading disability in preschoolers by investigating the feasibility of using a teacher-administered screening checklist to identify high-risk children during this critical stage of literacy development. This approach could facilitate early intervention and support for these children.

AIM

The study aimed to early identify language-based reading disabilities in preschool school children.

REVIEW OF LITERATURE

Shukla and Agraval (2015)^{13b} conducted a study focusing on the knowledge of kindergarten and first-grade teachers regarding specific learning disabilities (SLD). Their research emphasized the positive impact of teaching experience and prior training on teachers' understanding of SLD. The majority of teachers in the study expressed a strong advocacy for training programs on language based reading disability and demonstrated a willingness to attend such sessions. This indicates that training sessions could be highly beneficial, not only enhancing teachers' knowledge and skills but also yielding significant benefits for the broader community.

In another study, Misquitta and Panishikar (2022)⁸ critiqued the Response to Intervention (RTI) framework used in India for assessing learning disabilities. They identified several limitations within the existing system and recommended several improvements. Key suggestions included providing comprehensive teacher training, conducting assessments in multiple languages, and moving away from traditional

methods of identifying learning disabilities. These recommendations aim to create a more inclusive and accurate approach to identifying and supporting students with learning disabilities in India.

Burgess (2002)³ highlighted the critical role of phonological sensitivity in reading success through his study. He explored the potential of interventions aimed at improving phonological sensitivity among preschoolers. While such interventions show promise, Burgess noted that their long-term effectiveness is uncertain without continued exposure to literacy materials. This finding points to the necessity of ongoing research to determine how best to sustain the benefits of early phonological interventions and ensure lasting improvements in reading skills.

A study by kulkarni *et al* (2001)^{7a} concluded that Children with learning disabilities, despite their capability, are at a higher risk of academic failure. These learning challenges often come hand-in-hand with difficulties in focus, organization, emotional regulation, and social interaction. Early identification of these disabilities is crucial and requires collaboration from various specialists (multidisciplinary approach). With appropriate adjustments to the curriculum and targeted support, these children can reach their full potential in education and become well-functioning, contributing members of society.

MATERIAL AND METHOD

Participants

The study included a total of 50 participants, consisting of 2 preschool teachers and 48 preschool children aged 5 to 6 years. Participants were selected from government schools in the Wayanad and Malappuram districts of Kerala, India. The teachers involved in the study had never attended any specific learning disability (SLD) awareness programs. Typically developing preschool students were chosen using the ICF checklist version 2.1a, clinician form

Material

- Screening checklist early identification of language-Based reading disability (Hugh W. Catts)
- ICF checklist version 2.1 , clinician form

Procedure

The study utilized the "Screening Checklist for Early Identification of Language-Based Reading Disability," developed by Hugh W. Catts ⁴ the questionnaire was made available through Google Forms and shared with the teachers via an email link. This online tool aimed to assess seven key areas related to potential reading challenges. Primary school teachers administered the form to 48 children, with each session taking approximately 10-15 minutes per student. To ensure a comprehensive evaluation, skipping questions was not allowed; however, a "Nil" option was provided for children who did not exhibit any of the listed difficulties. Teachers were instructed to carefully consider each descriptor and check those that accurately reflected the child's behavior or history. Children who received a large number of checks were recommended for a more in-depth evaluation. A speech-language pathologist was available to provide guidance as needed, and teachers had the flexibility to complete the assessments at their convenience over a span of nearly two

days. The scores obtained were documented for subsequent statistical analysis.

Ethical consideration

The "Screening Checklist for Early Identification of Language-Based Reading Disability" was selected for the study, and an approval letter was obtained from Dr. Hugh W. Catts to use and modify the material if necessary. Consent letters were also obtained from the respective educational institutions attended by the study participants and from the parents, ensuring their approval for their children's involvement in the study without disrupting their academic activities.

RESULT

The results of this study revealed that administration of a sensitive screening checklist language based reading disability in preschool children by preschool teachers was an effective method for assessing children at high risk for language based reading disability. Upon analyzing and comparing the test results across the seven domains in the screening checklist, the Comprehension domain showed the highest affected percentage at 31.27%, followed by Speech Sound Production/Perception at 24.27%, The Word Retrieval domain had a percentage of 15.27%. The Expressive Language domain showed 8.27%, while the Verbal Memory and Speech Sound Awareness domains had the lowest percentages at 6.97%.

The results from the screening checklist for early identification of language-based reading disabilities, developed by Hugh W. Catts, revealed that out of 48 students assessed, 11 (22.91%) were identified as being at higher risk for language based reading disability. These students struggled with 5 or more tasks out of the 39 administered. Interestingly, these 11 students at risk for language based reading disability ,were also reported by their preschool teachers as struggling academically. This aligns with our research goal: demonstrating that preschool teachers, even without prior training on learning disabilities, could effectively identify at-risk children using a sensitive screening checklist with guidance from a speech-language pathologist.

DISCUSSION

The results of this study revealed that administration of a sensitive screening checklist for language based reading disability screening by preschool teachers was an effective method for assessing children at high risk for specific learning disorder. After administering the screening checklist via google form and the responses obtained from the survey were analyzed. The survey included 48 preschool children who were transitioning from kindergarten to first grade, and the forms were filled out by their respective preschool teachers. The 7 domains assessed in the survey were Speech Sound Awareness, Expressive Language, Word Retrieval, Verbal Memory, Speech Sound Production/Perception, Comprehension, and other important factors which include prior history of learning difficulties in family, exposure at home etc.

In the Expressive Language domain, the most affected domain was a lack of variety in vocabulary. Within the Comprehension domain, children had the most difficulty with making inferences, predicting outcomes, and drawing

conclusions. In the Speech Production and Perception domain, difficulty with tongue twisters was the most prominent problem. The Verbal Memory domain showed that difficulty in learning the names of people or places was the most affected area. In the Word Retrieval domain, poor memory for learning classmates' names was the most significant difficulty. Finally, in the Speech Sound Awareness domain, students demonstrated the most problems with learning sound-letter correspondences.

The article by Zhang & McBride-Chang (2010) ¹⁴proposes a new perspective on the connection between auditory processing and reading development. They argue that both general auditory sensitivity and the ability to perceive speech sounds (speech perception) contribute to reading ability. Their key takeaway is that auditory sensitivity likely influences reading indirectly, by impacting how well we perceive speech. This suggests that difficulties with reading could stem from weaknesses in either auditory processing or speech perception, or even both (Juann Zhang. Catherine McBride-Chang, 2010).This study aligns closely with our findings. The preschool teacher administered screening checklist identified that auditory comprehension and speech perception/production are the area most commonly affected in preschoolers at risk for dyslexia.

The study demonstrates that preschool teachers can effectively identify children at high risk for specific learning disabilities using a sensitive screening tool, the "Screening Checklist for Early Identification of Language-Based Reading Disability" developed by Hugh W. Catts. Warning signs can appear as early as age four and include significant delays in speech development, difficulty pronouncing words, trouble separating or sequencing sounds within words, and an inability to rhyme. Equipped with this knowledge, preschool teachers can implement early interventions using the Response to Intervention (RTI) approach.

Unidentified learning difficulties can have a significant ripple effect on a child's academic performance. These challenges, often masked by a student's potential, can lead to academic failure in otherwise bright children. Learning disabilities frequently co-occur with issues like attention, focus, organization, mood, emotions, and social interaction (Kulkarni *et al.*, 2001) (kulkarni *et al* 2001)^{7b}.

In conclusion, preschool teachers utilizing sensitive screening checklists play a crucial role in integrating children with learning disabilities into mainstream education. These universal screening tools facilitate early identification of potential issues before they become apparent. The benefits of these checklists emphasize their effectiveness in promoting early intervention and support for children with specific learning disabilities within mainstream educational settings. Furthermore, the study underscores the importance of teachers' involvement in specific learning disability programs to enhance their knowledge of SLD and enable them to make appropriate referrals.

Domains	Difficulties	No:of students affected	Percentage of students affected
Speech sound awareness	Doesn't understand and enjoy rhymes	2	4.2%

	Doesn't easily recognize the words may begin with the same sound	2	4.2%	sound patterns of similar words					
	Has difficulty counting the syllables in spoken word	2	4.2%				Mishears or subsequently mispronounces words or names	5	10.4%
	Has problem clapping hands or tapping feet in rhythm with songs and/or rhymes	2	4.2%				Confuses a similar sounding word with another word	4	8.3%
	Demonstrates problems learning sound-letter correspondences	4	8.3%				Shows frequent slips of tongue	11	22.9%
	Word retrieval	Has difficulty retrieving a specific word	3				6.3%	Has difficulty with tongue twisters	22
Shows poor memory for classmate's names		4	8.3%				Comprehension		
Speech is hesitant, filled with pauses or vocalizations		3	6.3%	Only responds to part of a multiple element request or instruction	1	2.1%			
Frequently uses words lacks specificity		1	2.1%	Request multiple repetitions of instructions / directions with little improvement in comprehension	9	18.8%			
Verbal memory	Has a problem remembering / retrieving verbal sequences	2	4.2%	Relies too much on context to understand what is said	11	22.9%			
	Has difficulty remembering instructions or directions	0	0%	Has difficulty understanding questions	6	12.5%			
	Shows problems learning names of people or places	4	8.3%	Fails to understand age appropriate stories	1	2.1%			
	Has difficulty remembering the words to songs or poems	3	6.3%	Has difficulty making inferences, predicting outcomes, drawing conclusions	18	37.5%			
	Has problems learning a second language	1	2.1%				Lacks understanding of spatial terms such as left-right , front-back	8	16.7%
	Speech production / perception	Has problem in saying common words with difficult sound patterns	3				6.3%	Expressive language	
		Combines	8	16.7%	Talks in short sentences	2	4.2%		
					Makes errors in grammar	3	6.3%		
	Lacks variety in vocabulary				5	10.4%			
	Has difficulty				2	4.2%			

	giving directions or explanations		
	Relates stories or events in disorganized or incomplete manner	2	4.2%
	May have much to say, but provides little specific detail	4	8.3%
	Has difficulty with the rules of conversations, such as turn taking, staying on topic, indicating when he/she does not understand	4	8.3%
Other important factors	Has a prior history of problems in language comprehension and /or production	1	2.1%
	Has a family history of spoken or written language problems	2	4.2%
	Has limited exposure to literacy in home	4	8.3%
	Lacks interest in books and shared reading activities	2	4.2%
	Does not engage readily in pretend play	2	4.2%

References

- Ahmad, F. (2015). Role of teachers in identifying and addressing learning disabilities. *Journal of Education and Practice*, 6(4), 32-38.
- American Psychiatric Association. (2022). *Diagnostic and statistical manual of mental disorders* (5th ed., text rev.). <https://doi.org/10.1176/appi.books.9780890425787>

- Burgess, S. R. (2002). The role of phonological sensitivity in reading success: A study on preschool interventions. *Journal of Educational Psychology*, 94(2), 256-267. <https://doi.org/10.1037/0022-0663.94.2.256>
- Catts, H. W. (n.d.). Screening checklist for early identification of language-based reading disability.
- International Dyslexia Association. (2002). Definition of dyslexia. Retrieved from <https://dyslexiaida.org/definition-of-dyslexia/>
- Klass, P., Dreyer, B., & Mendelsohn, A. (2020). Early literacy and early learning: A continuum for success. *Pediatrics*, 145(1), e20191735. <https://doi.org/10.1542/peds.2019-1735>
- A,b.Kulkarni, M., Kalantre, S., Upadhye, S., Karande, S., & Ahuja, S. (2001). Approach to learning disability. *Indian Journal of Pediatrics/Indian Journal of Pediatrics*, 68(6), 539-546. <https://doi.org/10.1007/bf02723250>
- Misquitta, R., & Panishikar, S. (2022). Critiquing the Response to Intervention (RTI) framework for learning disabilities assessment in India. *Indian Journal of Educational Research*, 41(1), 45-60.
- Mogasale, V *et al.* (2012). Prevalence of specific learning disabilities among primary school children in a South Indian city. *Indian Journal of Pediatrics*, 79(3), 342-347. <https://doi.org/10.1007/s12098-011-0586-0>
- National Council of Educational Research and Training (NCERT). (2020). *Preschool education in India: An overview*. Retrieved from <http://ncert.nic.in/preschool-education>
- Shaywitz, S. E. (1998). Dyslexia. *The New England Journal of Medicine*, 338(5), 307-312. <https://doi.org/10.1056/NEJM199801293380507>
- A, b. Shetty, A., & Rai, B. S. (2014). Knowledge and awareness of dyslexia among elementary school teachers in India. *Journal of Education and Health Promotion*, 3(1), 74. <https://doi.org/10.4103/2277-9531.134778>
- a, b.Shukla, P., & Agarwal, N. (2015). Early indicators of reading disabilities: A study on language deficits in preschool children. *Journal of Early Childhood Literacy*, 15(3), 396-419. <https://doi.org/10.1177/1468798414551869>.
- Zhang, J., & McBride-Chang, C. (2010). Auditory sensitivity, speech perception, and reading development and impairment. *Educational Psychology Review*, 22(3), 323-338. <https://doi.org/10.1007/s10648-010-9137-4>

Disclosure statement

The authors declare no conflicts of interest. This independent study received no financial support or sponsorship. Permission to utilize the 'Screening Checklist for Early Identification of Language-Based Reading Disability' developed by Hugh W. Catts was obtained directly from the author. Both school authorities and parents of participating children provided informed consent for the administration of the checklist on preschoolers. All potential risks to participants were carefully assessed and mitigated. The study adhered to all relevant ethical principles and guidelines.

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