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An Epidemiological Study of Knowledge and Awareness Regarding Dyslexia among Primary School Teachers in the Garhwal Region of Uttarakhand, India

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ABSTRACT

Background: Dyslexia is one of the most common specific learning disorders affecting children's reading, writing, spelling, and language processing abilities. Early identification and timely intervention are essential for improving educational outcomes and psychosocial well-being. Elementary school teachers play a pivotal role in recognizing early signs of dyslexia; however, in adequate knowledge and awareness may delay diagnosis and intervention. Limited epidemiological evidence is available regarding teachers' awareness of dyslexia in the Garhwal region of Uttarakhand.

Objective: To assess the knowledge and awareness regarding dyslexia among elementary school teachers in the Garhwal region of Uttarakhand, India.

Methods: A descriptive cross-sectional epidemiological study was conducted among 150 elementary school teachers selected through simple random sampling from government and private schools in the Garhwal region of Uttarakhand. Data were collected using a structured, self-administered questionnaire consisting of socio-demographic characteristics and questionsrelated to knowledge and awareness of dyslexia. Data were analyzed using descriptive statistics, including frequency and percentage. Associations between selected demographic variables and awareness of dyslexia may be explored using appropriate inferential statistical tests.

Results: Among the 150 participants, 114 (76.0%) were male and 36 (24.0%) were female. Most teachers 136 (90.7%) were postgraduates, while 14 (9.3%) possessed a Ph.D. degree. Overall, 123 (82.0%) teachers reported being aware of dyslexia, whereas 27 (18.0%) had no prior awareness. Departmental training was the most frequently reported source of information (66, 44.0%), followed by books and magazines (47, 31.3%), social media (34, 22.7%), and friends (3, 2.0%). The findings indicate that awareness of dyslexia was relatively high; however, formal professional training was limited to less than half of the participants.

Conclusion: Although the majority of elementary school teachers in the Garhwal region were aware of dyslexia, gaps remain in professional training and reliable sources of information. Strengthening teacher education through structured in-service training, continuous professional development programs, and evidence based educational resources may improve the early identification and management of children with dyslexia and promote inclusive education.

Keywords: Dyslexia, Knowledge, Awareness, Elementary School Teachers, Cross-sectional Study, Epidemiology, Inclusive Education, Uttarakhand, India

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INTRODUCTION

Dyslexia is one of the most common neurodevelopmental disorders affecting school-aged children worldwide and represents a significant public health and educational challenge. It is classified under Specific Learning Disorder (SLD) in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR) and is characterized by persistent difficulties in accurate word recognition, reading fluency, decoding, spelling, and written expression despite adequate intelligence, appropriate educational opportunities, and conventional classroom instruction (1). Dyslexia primarily results from deficits in phonological processing and language-related cognitive functions rather than visual impairment or intellectual disability. Consequently, children with dyslexia often struggle to achieve expected academic milestones during the foundational years of education, making early recognition and intervention essential.

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Reading is a complex cognitive process involving the integration of visual perception, phonological awareness, language comprehension, attention, working memory, and executive functioning. Successful reading requires the efficient coordination of these neurological processes. Children with dyslexia experience impairments in decoding written language, recognizing familiar words automatically, and developing reading fluency, which subsequently affects comprehension and academic achievement (2). Although intelligence remains unaffected, repeated academic failure frequently results in frustration, low self-esteem, anxiety, behavioral problems, reduced classroom participation, and poor educational attainment. These psychosocial consequences often continue into adolescence and adulthood when dyslexia remains unidentified or inadequately managed.

Globally, dyslexia affects approximately 5–15% of school-aged children, although prevalence estimates vary according to diagnostic criteria, language characteristics, and assessment methods (3). In alphabetic languages such as English, dyslexia is extensively studied, whereas multilingual countries face additional diagnostic challenges because orthographic transparency differs across languages. Despite these variations, dyslexia remains one of the leading causes of learning difficulties worldwide. The World Health Organization recognizes developmental learning disorders as conditions requiring early identification, multidisciplinary assessment, and appropriate educational support to improve lifelong functioning (4).

Dyslexia has important educational, psychological, social, and economic consequences. Children with unidentified dyslexia are more likely to experience poor academic performance, school absenteeism, emotional distress, anxiety, depression, and early school dropout. Families also experience considerable emotional and financial burdens while seeking diagnosis and specialized educational support. From a public health perspective, delayed identification contributes to reduced educational achievement, diminished workforce productivity, and increased long-term social costs. Consequently, improving early recognition of dyslexia has become an important component of inclusive education and child development programs across the world.

Scientific advances during the past three decades have substantially improved understanding of the neurobiological basis of dyslexia. Functional neuroimaging studies have demonstrated structural and functional differences within the left temporo-parietal, occipito-temporal, and inferior frontal cortical regions that are responsible for language processing and phonological decoding (5). These findings have firmly established dyslexia as a neurodevelopmental disorder with a biological basis rather than a consequence of poor intelligence, inadequate teaching, or lack of motivation. Nevertheless, misconceptions continue to exist among parents, teachers, and even healthcare professionals. Children with dyslexia are frequently labelled as lazy, inattentive, careless, or academically weak, resulting in delayed diagnosis and inappropriate educational practices.

India has made remarkable progress in improving literacy and school enrolment over the past two decades. However, learning outcomes remain an important challenge. The recognition of Specific Learning Disability under the Rights of Persons with Disabilities Act, 2016, together with the emphasis on inclusive education and foundational literacy in the National Education Policy (NEP) 2020, reflects the country's growing commitment to supporting children with learning difficulties (6,7). These policy initiatives encourage early screening, inclusive classroom practices, teacher capacity building, and individualized educational support. Despite these advances, implementation varies considerably across states, particularly in geographically remote and resource-constrained regions.

The burden of dyslexia in India is substantial. Epidemiological studies have estimated that approximately one in every ten school-going children may experience specific learning disabilities, with dyslexia representing the most common subtype (8). Considering India's large school-age population, millions of children may require educational support for dyslexia. Unfortunately, limited awareness, inadequate teacher preparation, scarcity of trained professionals, and insufficient screening programs contribute to under-identification, particularly in rural and semi-urban communities.

Among all stakeholders involved in child education, elementary school teachers occupy a unique position in recognizing the earliest manifestations of dyslexia. The primary school years are critical for the acquisition of reading, writing, spelling, and language skills. Teachers spend substantial time observing children's classroom performance, literacy development, communication skills, behavior, and learning patterns. Consequently, they are usually the first professionals capable of identifying children who consistently struggle with readingdespite receiving regular classroom instruction. Their observations often determine whether a child receives timely referral for specialized assessment and intervention.

Teachers possessing adequate knowledge regarding dyslexia can recognize early warning signs, provide appropriate classroom accommodations, communicate effectively with parents, reduce misconceptions, and facilitate referral to specialists. Evidence indicates that early identification and evidence-based educational interventions significantly improve reading outcomes, academic performance, and psychosocial well-being among children with dyslexia (2,12,13).

Research from several countries consistently demonstrates that although teachers generally express positive attitudes toward supporting children with learning disabilities, their knowledge regarding dyslexia remains inadequate. Common misconceptions include believing that dyslexia is primarily a visual disorder, that affected children have low intelligence, or that they eventually outgrow their reading difficulties without intervention (9–11). Such misconceptions influence classroom practices and delay appropriate referrals. Studies have also shown that teachers who receive structured training on learning disabilities demonstrate significantly better knowledge, greater confidence in identifying children with dyslexia, and more positive attitudes toward inclusive education (11–13).

In India, research exploring teachers' awareness of dyslexia remains relatively limited. One of the earliest studies conducted among elementary school teachers reported that although most participants had heard the term "dyslexia," only a small proportion possessed adequate knowledge regarding its signs and symptoms. The study further demonstrated that previous training and longer teaching experience were associated with improved awareness and recommended regular teacher-training programs to strengthen early identification of children with dyslexia (14). Similar findings have subsequently been reported from different educational settings, emphasizing the importance of continuous professional development and evidence-based teacher education.

Despite increasing national attention toward inclusive education, there remains limited epidemiological evidence regarding teachers' knowledge and awareness of dyslexia in the Himalayan state of Uttarakhand. The Garhwal region presents unique geographical, cultural, and educational challenges. Schools are distributed across mountainous terrain, many communities have limited access to specialized educational and psychological services, and opportunities for professional development may be less frequent than in urban areas. These factors highlight the need to assess the current level of knowledge and awareness among elementary school teachers working in this region.

Over the past decade, awareness of dyslexia has gradually increased worldwide because of growing emphasis on inclusive education, early childhood development, and equitable access to quality education. Nevertheless, several studies continue to report insufficient knowledge among school teachers regarding the characteristics, causes, identification, and classroom management of dyslexia. Teachers often recognize that some children experience persistent learning difficulties; however, they may not

possess adequate knowledge to differentiate dyslexia from intellectual disability, behavioural problems, poor motivation, or inadequate classroom participation (9–12). Consequently, many children remain unidentified during the crucial years of literacy acquisition,
delaying appropriate educational interventions and increasing the risk of poor academic achievement.

The effectiveness of early intervention depends largely on timely identification within the school environment. International evidence demonstrates that evidence-based interventions implemented during the early primary grades significantly improve reading fluency, phonological awareness, spelling ability, and overall academic performance (2,5). Conversely, delayed diagnosis reduces the effectiveness of intervention and may lead to cumulative educational deficits that persist into adolescence and adulthood (3,13). Therefore, elementary school teachers represent the first and most important link in the identification pathway for children with dyslexia.

Teacher awareness extends beyond simply recognizing the term "dyslexia." It includes understanding the early warning signs, differentiating dyslexia from other learning problems, adopting inclusive classroom strategies, communicating effectively with parents, and referring children for appropriate educational or psychological assessment. Inadequate awareness may result in misconceptions that children are careless, lazy, inattentive, or intellectually weak, leading to inappropriate disciplinary practices and reduced educational opportunities. Such misconceptions may negatively influence children's self-esteem, classroom participation, and emotional well-being, thereby compounding the educational burden associated with dyslexia (9–12).

Continuous professional development has been identified as one of the most effective strategies for improving teachers' knowledge regarding learning disabilities. Training programmes focusing on phonological awareness, early screening, classroom accommodations, individualized instructional strategies, and referral mechanisms have consistently demonstrated improvements in teachers' knowledge, confidence, and classroom practices (11,12). In addition, collaboration among teachers, parents, special educators, psychologists, speech-language therapists, and healthcare professionals facilitates comprehensive support for children with dyslexia. These findings highlight the importance of integrating dyslexia-related content into both pre-service teacher education and regular in-service training programmes.

In India, implementation of inclusive education has accelerated following educational reforms and disability legislation. The National Education Policy 2020 advocates universal foundational literacy and numeracy, early identification of learning needs, competency-based education, and capacity building of teachers to address diverse learning requirements (7). Similarly, the Rights of Persons with Disabilities Act, 2016 recognizes Specific Learning Disability as a benchmark disability and recommends educational accommodations to ensure equal learning opportunities (6). Despite these policy initiatives, substantial disparities continue to exist between urban and rural educational settings, particularly in resource-limited regions where access to specialized educational services and professional training is restricted.

The Garhwal region of Uttarakhand presents unique geographical and educational characteristics that justify further investigation. The region comprises predominantly mountainous terrain with dispersed rural communities, making access to specialized educational assessment services comparatively limited. Elementary school teachers frequently serve as the first and sometimes the only professionals available to recognize developmental and learning difficulties among children. Consequently, their knowledge and awareness regarding dyslexia become critically important for facilitating early referral and intervention. However, epidemiological data describing teachers' awareness of dyslexia in this region remain scarce.

Although previous Indian studies have explored teachers' awareness of dyslexia in selected urban settings (14), there is limited published evidence describing the level of knowledge among elementary school teachers working in the Garhwal region of Uttarakhand. Regional differences in educational infrastructure, teacher training opportunities, socioeconomic conditions, language diversity, and accessibility of special education services may influence teachers' awareness and preparedness to identify children with dyslexia. Therefore, findings from studies conducted elsewhere cannot be generalized directly to this population. Generating region-specific evidence is essential for planning targeted educational interventions and strengthening inclusive education programmes.

The present study is therefore designed as a cross-sectional epidemiological investigation to assess the knowledge and awareness regarding dyslexia among elementary school teachers in the Garhwal region of Uttarakhand. In addition to estimating the proportion of teachers who are aware of dyslexia, the study also explores their sources of information and professional exposure related to learning disabilities. Such information is expected to provide valuable baseline evidence for educational administrators, teacher training institutions, nursing professionals, school health services, and policymakers responsible for improving child education and developmental health.

From a public health perspective, strengthening teachers' knowledge regarding dyslexia has implications that extend beyond academic achievement. Early recognition and timely referral may reduce educational inequalities, improve psychological well-being, minimize school failure and dropout, enhance parental awareness, and facilitate access to specialized educational services. Teacher training may also contribute to the successful implementation of inclusive education policies by creating supportive classroom environments for children with specific learning disorders.

The findings of the present study are expected to identify existing strengths and gaps in teachers' awareness regarding dyslexia and provide evidence for developing structured awareness campaigns, continuing professional development programmes, and educational policies aimed at improving early identification of children with learning disabilities. Furthermore, the study may serve as baseline epidemiological evidence for future research conducted in Uttarakhand and other Himalayan states with similar geographical and educational characteristics.

In conclusion, dyslexia continues to represent an important educational and public health challenge requiring coordinated efforts from educators, healthcare professionals, policymakers, and families.
Elementary school teachers occupy a pivotal position in the early identification and educational management of children with dyslexia. Assessing their knowledge and awareness is therefore essential for strengthening inclusive education, improving early intervention, and promoting better educational outcomes. Against this background, the present study was undertaken to assess the knowledge and awareness regarding dyslexia among elementary school teachers in the Garhwal region of Uttarakhand, India.

MATERIALS AND METHODS

Study Design and Setting

A descriptive cross-sectional epidemiological study was conducted among elementary school teachers working in selected government and private elementary schools in the Garhwal region of Uttarakhand, India. The study was carried out from 15 Feb 2026 to 15 March 2026.

Study Population

The study population comprised elementary school teachers employed in recognized government and private schools in the Garhwal region of Uttarakhand during the study period.

Inclusion Criteria

- Elementary school teachers currently working in selected government and private schools.

• Teachers who were willing to participate in the study.
• Teachers who provided written informed consent.

Exclusion Criteria

• Teachers who were absent during the period of data collection.
• Teachers who declined to participate.
• Non-teaching staff and school administrators.

Sample Size and Sampling Technique

A total of 150 elementary school teachers participated in the study. Participants were selected using a simple random sampling technique.

Study Instrument

Data were collected using a structured, self-administered questionnaire developed by the investigator after an extensive review of the literature and published studies related to dyslexia and teacher awareness. The questionnaire consisted of two sections: Section A: Socio-demographic information, including gender, educational qualification, teaching experience, and source of information regarding dyslexia and Section B: Items assessing awareness and knowledge regarding dyslexia, including familiarity with the disorder, recognition of its characteristics, and awareness of educational support and early identification. The questionnaire was prepared in English using simple and clear language to facilitate understanding by the participants. The questionnaire was reviewed by subject experts in nursing, education, and child health to assess its relevance, clarity, and comprehensiveness. Suggestions provided by the experts were incorporated before final administration. A pilot study was conducted prior to the main study to assess the feasibility, clarity, and practicality of the data collection procedure. Participants included in the pilot study were not included in the final sample.

Permission to conduct the study was obtained from the concerned school authorities before data collection. The investigator explained the objectives and purpose of the study to the participants and obtained written informed consent. Completed questionnaires were collected on the same day. Confidentiality and anonymity of the participants were maintained throughout the study.

Ethical Considerations

The study was conducted in accordance with the ethical principles of research involving human participants. Institutional permission was obtained through COIR University, and administrative permission was obtained from the respective authorities before commencement of the study. Written informed consent was obtained from all participants. Participation was voluntary, and confidentiality and anonymity were maintained throughout the study. Participants were informed of their right to withdraw from the study at any stage without any consequences.

Statistical Analysis

Data were checked for completeness, coded, and entered into Microsoft Excel for analysis. Descriptive statistics, including frequencies and percentages, were used to summarize the socio-demographic characteristics and awareness regarding dyslexia among elementary school teachers. The findings are presented in tables and figures where appropriate. Statistical significance was considered at a p-value of <0.05 for inferential analyses performed during the final analysis.

RESULTS

A total of 150 elementary school teachers participated in the present descriptive cross-sectional study conducted in the Garhwal region of Uttarakhand. The findings are presented under the following headings.

Distribution of Participants According to Socio-demographic Characteristics (N = 150)

Variable	Frequency (n)	Percentage (%)
Gender		
Male	114	76.0
Female	36	24.0
Educational Qualification		
Postgraduate	136	90.7
Ph.D.	14	9.3

Among the 150 study participants, 114 (76.0%) were male and 36 (24.0%) were female. Regarding educational qualification, the majority of teachers 136 (90.7%), possessed a postgraduate degree while 14 (9.3%) held a doctoral (Ph.D.) degree.

Distribution of Participants According to Awareness Regarding Dyslexia (N = 150)

Awareness	Frequency (n)	Percentage (%)
Aware of dyslexia	123	82.0
Not aware of dyslexia	27	18.0

Out of 150 participants, 123 (82.0%) reported that they were aware of dyslexia, whereas 27 (18.0%) stated that they had no prior awareness of the disorder.

(N = 150)

Distribution of Participants According to Sources of Information Regarding Dyslexia

Source of Information	Frequency (n) |	Percentage (%)
Departmental training	66	44.0
Books and magazines	47	31.3
Social media	34	22.7
Friends	3	2.0

Departmental training was the most frequently reported source of information regarding dyslexia, accounting for 66 (44.0%) participants. This was followed by books and magazines 47 (31.3%), social media 34 (22.7%), and friends 3 (2.0 %).

Participants' Perceptions Regarding the Nature of Dyslexia (N = 150)

Perception Regarding Dyslexia	Frequency (n)	Percentage (%)
Mental disorder	9	6.0
Physical disorder	24	16.0
Visual disorder	37	24.7
No idea	80	53.3

Teachers were asked about their understanding of the nature of dyslexia. Only 9 (6.0%) participants identified dyslexia as a mental disorder, while 24 (16.0%) considered it a physical disorder and 37 (24.7%) perceived it as a visual disorder. The majority of participants 80 (53.3%), reported that they had no idea about the nature of dyslexia.

Summary of the Findings

The present study demonstrated that the majority of elementary school teachers (82.0%) had heard of dyslexia. However, more than half of the participants (53.3%) were unable to correctly identify the nature of the disorder, indicating that awareness did not necessarily translate into adequate conceptual knowledge. Departmental training emerged as the primary source of information (44.0%), followed by books and magazines (31.3%) and social media (22.7%). The findings suggest the need for structured teacher education programs and continuous professional development to improve teachers' knowledge regarding dyslexia and facilitate its early identification in school settings.

DISCUSSION

The present descriptive cross-sectional study assessed the knowledge and awareness regarding dyslexia among elementary school teachers in the Garhwal region of Uttarakhand. As elementary school teachers are the first professionals to observe children's learning behaviour, their awareness and understanding of dyslexia are essential for early identification, referral, and implementation of appropriate educational interventions. The present study provides baseline evidence on teachers' awareness of dyslexia in a geographically diverse region where published data are limited.

In the present study, **82.0%** of the participants reported that they had heard about dyslexia, whereas **18.0%** had no prior awareness of the disorder. This finding suggests that the term "dyslexia" is familiar to a large proportion of elementary school teachers. Similar observations were reported by **Shetty and Rai (2014)**, who found that most elementary school teachers had heard about dyslexia, although their detailed knowledge regarding its characteristics and management was limited (14). The increasing awareness observed in the present study may reflect the growing emphasis on inclusive education, teacher orientation programmes, and the dissemination of educational information through multiple media platforms.

Despite the relatively high level of awareness, the present study identified substantial gaps in teachers' conceptual understanding of dyslexia. More than half of the participants (**53.3%**) reported that they had **no idea** about the nature of dyslexia. Furthermore, **24.7%** considered dyslexia to be a visual disorder, **16.0%** perceived it as a physical disorder, and **6.0%** believed it to be a mental disorder. These findings indicate that although many teachers have heard of dyslexia, misconceptions regarding its underlying nature remain common. Dyslexia is a neurodevelopmental specific learning disorder and should not be confused with visual impairment, intellectual disability, or mental illness (1,3,5). Similar misconceptions have been reported in previous international studies evaluating teachers' knowledge of dyslexia (9–12).

The persistence of these misconceptions has important educational implications. Teachers who are unable to correctly identify the characteristics of dyslexia may attribute children's learning difficulties to poor intelligence, lack of motivation, or behavioural problems. Such misconceptions may delay referral for specialized assessment and reduce opportunities for early intervention. Previous studies have consistently demonstrated that early identification and evidence-based educational support significantly improve reading performance, academic achievement, and psychosocial adjustment among children with dyslexia (2,3). Therefore, improving teachers' understanding of dyslexia should remain a priority within teacher education programmes.

The present study also explored the sources through which teachers acquired information regarding dyslexia. Departmental training was the most frequently reported source of information (**44.0%**), followed by books and magazines (**31.3%**), social media (**22.7%**), and friends (**2.0%**). These findings suggest that formal professional training remains the primary mechanism through which teachers obtain information regarding learning disabilities. However, fewer than half of the participants reported receiving departmental training, indicating that opportunities for structured professional development remain inadequate. Similar observations have been reported by Washburn et al. (9), who concluded that teachers often possess insufficient formal knowledge of dyslexia despite positive attitudes towards inclusive education.

The increasing use of books, magazines, and social media as sources of information demonstrates the expanding availability of educational resources. Nevertheless, information obtained from informal sources may not always be scientifically accurate or evidence-based. This emphasizes the importance of providing standardized training modules on specific learning disorders through teacher education institutions and regular in-service training programmes. Strengthening collaboration between educators, psychologists, special educators, and healthcare professionals may further improve teachers' capacity to recognize and support children with dyslexia.

The educational profile of the participants revealed that **90.7%** were postgraduates and **9.3%** possessed doctoral qualifications. Although the study did not examine the relationship between educational qualification and awareness, the findings indicate that higher academic qualifications alone may not ensure adequate knowledge regarding specific learning disorders. Professional training specifically focused on dyslexia and inclusive classroom practices appears to be equally important.

The findings of the present study have important implications for educational policy and school health programmes. The National Education Policy 2020 emphasizes foundational literacy, inclusive education, early identification of learning difficulties, and continuous teacher capacity building (7). Likewise, the Rights of Persons with Disabilities Act, 2016 recognizes Specific Learning Disability and supports educational accommodations for affected children (6). The present findings suggest that greater emphasis should be placed on integrating dyslexia-related content into pre-service teacher education curricula and regular in-service professional development programmes. School-based awareness campaigns, educational workshops, and multidisciplinary collaboration may enhance teachers' confidence in identifying and supporting children with dyslexia.

One of the strengths of the present study is that it provides baseline information regarding awareness of dyslexia among elementary school teachers in the Garhwal region of Uttarakhand, where published evidence is limited. The findings may assist educational administrators, policymakers, and teacher training institutions in planning awareness programmes and strengthening inclusive educational practices within the region.

However, certain limitations should be considered while interpreting the findings. The study included a relatively small

sample of teachers from selected schools and employed a descriptive cross-sectional design; therefore, the findings cannot be generalized to all teachers in Uttarakhand or other regions of India. In addition, the study relied on self-reported responses, which may be influenced by recall bias or social desirability bias. Since inferential statistical analyses were not performed, the study does not identify factors associated with teachers' awareness of dyslexia. Future research involving larger samples and validated assessment instruments is recommended to provide a more comprehensive understanding of teachers' knowledge and training needs.

Overall, the present study indicates that although awareness of the term "dyslexia" is relatively high among elementary school teachers in the Garhwal region, substantial gaps remain in their conceptual understanding of the disorder. Strengthening teacher education through structured training programmes, evidence-based educational resources, and continuous professional development may improve early identification of dyslexia and contribute to better educational outcomes for children with specific learning disorders.

CONCLUSION

The present descriptive cross-sectional study assessed the knowledge and awareness regarding dyslexia among elementary school teachers in the Garhwal region of Uttarakhand. Although a majority of the participants (82.0%) reported that they were aware of dyslexia, the findings revealed important gaps in their conceptual understanding of the disorder. More than half of the teachers (53.3%) were unable to identify the nature of dyslexia correctly, indicating that awareness of the term does not necessarily translate into adequate professional knowledge.

Departmental training emerged as the most common source of information; however, less than half of the teachers had received such training. These findings highlight the need for regular in-service teacher training, inclusion of specific learning disorders in teacher education curricula, and dissemination of evidence-based educational resources. Strengthening teachers' knowledge regarding dyslexia may facilitate early identification, timely referral, appropriate classroom support, and improved academic outcomes for children with learning difficulties.

The findings of the present study provide baseline evidence for educational administrators, policymakers, teacher training institutions, school health professionals, and researchers. Future studies involving larger samples and validated assessment tools are recommended to further explore teachers' knowledge, attitudes, and practices regarding dyslexia in different educational settings.

STRENGTHS OF THE STUDY

The present study is one of the few studies conducted in the Garhwal region of Uttarakhand to assess elementary school teachers' knowledge and awareness regarding dyslexia. It provides baseline epidemiological evidence from a geographically distinct region where published literature is limited. The use of a structured questionnaire and inclusion of teachers from both government and private schools contributed to the comprehensive assessment of awareness regarding dyslexia. The findings may serve as a valuable resource for planning teacher training programmes and strengthening inclusive educational practices.

LIMITATIONS OF THE STUDY

The study has certain limitations. First, the study was conducted among 150 elementary school teachers from selected schools in the Garhwal region; therefore, the findings may not be generalizable to all teachers in Uttarakhand or other parts of India. Second, the study relied on self-reported responses, which may be influenced by response bias. Third, the questionnaire was developed by the investigator, and psychometric properties such as internal consistency reliability were not formally evaluated. Finally, the study employed descriptive statistical analysis; therefore, associations between teachers' awareness and demographic characteristics could not be explored.

DECLARATIONS

Ethics Approval and Consent to Participate

Permission to conduct the study was obtained from the concerned educational authorities and participating schools. The study was conducted in accordance with the ethical principles of research involving human participants. Written informed consent was obtained from all participants prior to data collection. Participation was voluntary, and confidentiality and anonymity were maintained throughout the study.

Consent for Publication

Not applicable.

Availability of Data and Materials

The datasets generated and/or analyzed during the current study are available from the corresponding author upon reasonable request.

Competing Interests

The authors declare that they have no competing interests.

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Authors' Contributions

All authors reviewed and approved the final manuscript prior to submission.

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