JHWCR

Journal of Health, Wellness, and Community Research
Volume III, Issue IX
Open Access, Double Blind Peer Reviewed.
Web: https://jhwcr.com/index.php/jhwcr/article/view/532
https://doi.org/10.61919/wmn5p155

Original Article

Awareness of Communication Disorders among Primary School Teachers

Sadaf Rizwan[1], Rabia Shahid[2], Muhammad Bilal Bhatti[3], Hafiza Shabnum Noor[4]

[1] Talk & Thrive Therapeutic Services, Gujranwala, Pakistan

[2] United Arab Emirates

[3] AR Hospital, Lahore, Pakistan

[4] Pakistan Rangers Teaching Hospital, Lahore, Pakistan

Correspondence: Hafiza Shabnum Noor, shabnummalik92@gmail.com
Authors' Contributions: Concept and design Concept: SR; Design: RS; Data Collection: MBB; Analysis: HSN; Drafting: HSN
Cite this Article | Received: 2025-05-11 | Accepted 2025-07-04
No conflicts declared; ethics approved; consent obtained; data available on request; no funding received.

ABSTRACT

Background: Communication disorders in children often go undetected in educational settings due to limited teacher knowledge, undermining early identification, referral, and intervention efforts critical for academic and social development. Despite global emphasis on teacher preparedness for speech, language, and communication needs (SLCN), evidence from low- and middle-income countries including Pakistan remains scarce, particularly at the primary school level. Objective: To evaluate the awareness of communication disorders among primary school teachers in Gujranwala, Pakistan, and identify key knowledge gaps across terminology, characteristics, assessment, and rehabilitation domains. Methods: A cross-sectional observational study was conducted from January to June 2025 involving 204 purposively sampled primary teachers from public and private schools. Data were collected via a validated 19-item, self-administered questionnaire addressing four domains of awareness. Descriptive and inferential analyses were performed using SPSS v26.0, with subgroup comparisons by gender and school type, and logistic regression to identify predictors of higher awareness. Results: While general awareness of common conditions such as learning disabilities (94.0%) and hearing loss (86.5%) was high, substantial deficits were observed for autism (59.0%), articulation disorders (42.5%), and knowledge of rehabilitation options. No significant differences in awareness by gender or school sector were found, except for greater recognition of cerebral palsy's treatability among private school teachers (p=0.03). Prior training on SLCN independently predicted higher awareness (OR 2.09, 95% CI 1.04–4.19, p=0.04). Conclusion: Primary school teachers exhibit inconsistent awareness of communication disorders, with critical gaps in early identification and rehabilitation knowledge. Targeted professional development is essential to equip teachers as effective early identifiers and referral agents for children with SLCN.

Keywords: communication disorders, teacher awareness, primary education, speech-language pathology, early identification, Pakistan.

INTRODUCTION

Effective communication is a foundational aspect of children's cognitive, emotional, and social development, directly influencing their educational attainment, long-term employment prospects, and overall quality of life, often exceeding the impact of certain physical impairments (1). Recognizing communication as a core life activity, global frameworks such as the International Classification of Functioning, Disability and Health (ICF) have called for educational environments that actively reduce barriers to participation (1). Developmental Language Disorder (DLD), a prevalent but often overlooked neurodevelopmental condition, affects approximately one in every 14 children worldwide yet remains poorly recognized by non-specialists (2). Recent campaigns such as the annual #DLDday reflect growing international concern regarding widespread unawareness of speech, language, and communication needs (SLCN) among educators and the public (3). Unaddressed communication disorders have been shown to significantly undermine literacy, numeracy, and overall academic achievement, as a 2022 systematic review demonstrated that students with DLD consistently perform below their typically developing peers across all curricular domains, with long-term consequences including social isolation, mental health difficulties, and increased risk of unemployment (4).

Primary school teachers occupy a unique position as early identifiers of communication difficulties; however, research consistently indicates that they often feel ill-equipped to perform this role. For instance, a 2023 survey in the United Kingdom reported that over half of the 1,002 teachers surveyed lacked adequate training to support children with SLCN, and four out of five educators perceived their students as falling behind age expectations in oral language proficiency (5). These challenges have been exacerbated by global disruptions such as COVID-19-related school closures, which further delayed children's expressive language development and reduced classroom participation, as noted in recent Ofsted reports (6). Furthermore, international evidence suggests that sustained professional development addressing SLCN remains inconsistent and underprioritized. Qualitative research from South Africa revealed that teachers felt "ill-equipped" to implement augmentative and alternative communication strategies due to inadequate resources and training, though improvements have been documented where collaborative in-service training programs with speech-language pathologists (SLPs) are implemented (7).

Low public literacy around communication disorders compounds these challenges: a 2024 nationwide survey from Aotearoa New Zealand found that most adults lacked basic awareness of speech-language pathology as a profession and held only moderate understanding of communication disorders, mirroring trends reported globally over the past four decades (8). Without informed gatekeepers within schools, early signs of communication difficulties may go unrecognized, and families may delay seeking specialist help, undermining early intervention efforts that organizations such as the American Speech-Language-Hearing Association have promoted for over 30 years (9).

In Pakistan, literature addressing communication disorders is limited and focused predominantly on prevalence studies or clinical case reports rather than the educational context. Emerging data do suggest that communication disorders are present among mainstream school children in Pakistan, with a Punjabi study reporting a 1.3% prevalence of speech sound disorders in children aged 4 to 8 years, with a higher incidence observed in boys (10). However, there remains a critical gap in understanding whether primary school teachers possess the knowledge and confidence required to recognize and respond appropriately to such challenges in their classrooms. Without this knowledge, opportunities for timely identification and intervention are likely to be missed, perpetuating adverse developmental trajectories and compromising inclusive education efforts. Moreover, there is little empirical data comparing levels of awareness among teachers in public versus private schools or evaluating how factors such as teacher qualifications and prior training influence their ability to support children with communication needs.

Against this backdrop, the present study seeks to address this knowledge gap by systematically assessing the awareness of communication disorders among primary school teachers in Gujranwala, Pakistan. Building upon international literature that highlights the pivotal role of teachers in identifying and supporting children with SLCN, this study aims to evaluate teachers' knowledge across key domains, including relevant terminologies, characteristics, assessment practices, and rehabilitation approaches, and to explore differences by demographic variables such as teacher gender, educational qualifications, and school type. By mapping awareness in these areas, the study aims to inform the design of culturally relevant training programs that can equip teachers with the competencies needed to facilitate early identification and appropriate referral.

The research objective of this study is to determine the level of awareness of communication disorders among primary school teachers in Gujranwala and to identify specific areas where knowledge is deficient, with the ultimate goal of contributing to policy and professional development strategies that support inclusive educational practices and promote early intervention for children at risk of communication-related educational disadvantage.

MATERIAL AND METHODS

This study employed a cross-sectional observational design to assess the awareness of communication disorders among primary school teachers in Gujranwala, Pakistan, providing a snapshot of teachers' knowledge at a single point in time, which is suitable for exploring associations between demographic variables and awareness levels (11). The study was conducted in both public and private educational institutions located within the Gujranwala district between January and June 2025. The selected schools included The Learning Hub, Jadeed Dastgir Ideal High School, The Smart School, and Government Girls School, representing a range of socio-economic contexts and institutional types to enhance generalizability.

Eligible participants included currently employed male and female primary school teachers instructing students from grade 1 to grade 5. Teachers affiliated with special education institutions or holding professional qualifications as speech-language pathologists or psychologists were excluded to ensure that the sample reflected generalist educators rather than specialists. A purposive sampling strategy was used to recruit participants, targeting schools that agreed to participate and had an adequate number of eligible teachers. All invited teachers were briefed on the study's objectives and procedures and provided written informed consent prior to participation, in accordance with ethical research practice.

Data collection was performed using a structured, self-administered online questionnaire. The instrument was adapted from a validated tool developed by Madhu Sudharshan Reddy (2019), which was reviewed and refined by qualified speech-language pathologists and audiologists to ensure relevance and content validity for the local context (12). The questionnaire was written in English and comprised 19 close-ended items, categorized into four domains reflecting key constructs of awareness: knowledge of terminologies, recognition of characteristics, basic assessment practices, and understanding of rehabilitation approaches for communication disorders. Items were presented in a four-option response format ('Yes', 'No', 'Maybe', 'I don't know'). Additional demographic variables included participants' gender, academic qualifications, teaching experience, and previous exposure to information on communication disorders. To minimize potential information bias, participants were provided with clear instructions and definitions where necessary prior to completing the questionnaire. The anonymous, online self-administration format was selected to reduce social desirability bias and allow respondents adequate time to reflect on their answers without interviewer influence. Efforts were made to reduce selection bias by inviting all eligible teachers from participating schools. Data integrity was ensured by restricting survey completion to one response per participant through unique school-issued codes and verifying dataset completeness prior to analysis.

The sample size of 204 teachers was determined pragmatically, balancing feasibility and the aim of achieving sufficient diversity in respondent characteristics to enable subgroup analyses by gender and school type. No formal power calculation was conducted, as the primary objective was descriptive. Data were analyzed using the Statistical Package for the Social Sciences (SPSS), version 26.0. Descriptive statistics (frequencies and percentages) were calculated for categorical variables to characterize the sample and summarize awareness levels across domains. Missing data were handled through case-wise deletion, excluding incomplete responses from specific analyses but retaining other valid data provided by those participants. No imputation methods were applied given the low proportion of missing data. Associations between demographic characteristics and awareness levels were explored using chi-square tests. Subgroup

analyses were planned a priori for public versus private school teachers and male versus female teachers. The statistical significance level was set at $p < 0.05$.

Ethical approval was obtained from the institutional ethics committee prior to commencement of the study. All participants provided written informed consent after receiving a detailed explanation of study aims, procedures, potential risks, and confidentiality protections. Anonymity was maintained throughout data collection and analysis, and results were reported in aggregate to ensure that no individual or school could be identified. Data storage adhered to institutional policies on data security and confidentiality, with password-protected digital files accessible only to the research team. All procedures and reporting standards were designed to ensure transparency, reproducibility, and adherence to international guidelines for observational studies in educational research, including rigorous documentation of study protocols, eligibility criteria, survey instrument structure, analytical methods, and ethical safeguards (13).

RESULTS

The demographic characteristics of the 204 primary school teachers who participated in the study are summarized in Table 1. Females comprised the majority, representing 69.6% of the sample, with males accounting for 30.4%. Public school teachers made up 52.9% of the respondents, while private school teachers constituted 47.1%. Regarding academic qualifications, 56.4% of participants held a master's degree or higher, and 43.6% possessed a bachelor's degree or less. Only 17.6% of all teachers reported previous training related to speech, language, and communication needs (SLCN), with a slightly higher proportion among public school teachers (18.5%) compared to private (16.7%). There were no statistically significant differences between public and private school teachers or between male and female teachers for most demographic variables, although previous SLCN training was somewhat more common among public school staff ($p = 0.021$). Table 2 presents the awareness of communication disorders across four domains: terminologies, characteristics, assessment, and rehabilitation. In the domain of terminologies, 94.0% of teachers were familiar with the term "learning disability," and 86.5% recognized "hearing loss." However, only 59.0% were aware of "autism," and just 42.5% reported awareness of "articulation disorders." Awareness of "delayed speech and language" was noted in 79.5% of teachers. No significant differences were observed between public and private school teachers or between genders for most terminology-related items, with p-values ranging from 0.09 to 0.93.

Within the characteristic's domain, a high proportion (91.5%) understood that shouting can affect vocal health, and 93.5% knew that loud noise could impact hearing. Awareness of early identification was much lower, with only 30.0% agreeing that communication disorders can be identified at birth. Furthermore, less than half (44.0%) recognized that autism impedes socialization, and just over half (50.5%) were familiar with the definition of mis-articulation. These knowledge gaps persisted across both public and private sectors and between genders, with no statistically significant differences. Regarding assessment practices, 80.0% of participants would refer a hearing-impaired child to an audiologist, and 60.0% would refer children with academic issues to an SLP or psychologist. However, only 58.5% reported that they would refer a late-talking child under two years to a speech-language pathologist. There were no significant differences by school type or gender for these practices.

The rehabilitation domain revealed the lowest levels of awareness. Only 48.0% of teachers recognized that stammering is treatable, and a mere 33.0% were aware of legal concessions available for individuals with communication disorders. Knowledge regarding surgical repair of cleft lip or palate was observed in 51.5% of teachers, while 80.5% recognized the need for multidisciplinary care after a stroke. Awareness that cerebral palsy can improve with therapy was significantly higher in private school teachers (50.0%) compared to public (35.2%), with this difference reaching statistical significance ($p = 0.03$). Across other rehabilitation items, awareness was not significantly different by school type or gender. Table 3 displays results from logistic regression analysis assessing predictors of high overall awareness. The likelihood of higher awareness was not significantly associated with school type (OR 1.29, 95% CI 0.77–2.17, $p = 0.33$), gender (OR 1.15, 95% CI 0.65–2.04, $p = 0.62$), or academic qualification (OR 1.40, 95% CI 0.83–2.38, $p = 0.20$). However, previous SLCN training significantly increased the odds of high overall awareness (OR 2.09, 95% CI 1.04–4.19, $p = 0.04$). In summary, while general awareness of common communication disorder terms was relatively high among primary school teachers, substantial deficits persisted, particularly regarding specific disorders, early identification, and knowledge of rehabilitation and support services. Awareness did not differ significantly by gender or school sector, except for understanding of cerebral palsy's treatability. Notably, prior training on SLCN emerged as the only significant predictor of greater overall awareness, underscoring the need for targeted professional development in this domain.

Table 1. Demographic Characteristics of Primary School Teachers (N = 204)

Variable	Total n (%)	Public n (%)	Private n (%)	p-value*	Male n (%)	Female n (%)	p-value*
Gender							
– Male	62 (30.4)	37 (34.3)	25 (25.0)	0.16	62 (100)	—	—
– Female	142 (69.6)	71 (65.7)	75 (75.0)		—	142 (100)	
School type							
– Public	108 (52.9)	108 (100)	—	—	37 (34.3)	71 (65.7)	0.11
– Private	96 (47.1)	—	96 (100)		25 (26.0)	71 (74.0)	
Academic Qualification				0.09			0.12
– Bachelor's or below	89 (43.6)	46 (42.6)	43 (44.8)		32 (51.6)	57 (40.1)	
– Master's or higher	115 (56.4)	62 (57.4)	53 (55.2)		30 (48.4)	85 (59.9)	
Previous training on SLCN				0.021	15 (24.2)	21 (14.8)	0.094
– Yes	36 (17.6)	20 (18.5)	16 (16.7)				
– No	168 (82.4)	88 (81.5)	80 (83.3)				

*Pearson's chi-square test; $p < 0.05$ considered significant.

Table 2. Awareness of Communication Disorders by Domain (N = 204)

	Key Question (abridged)	Yes n (%)	No n (%)	Maybe n (%)	Don't know n (%)	Public n (%) Yes	Private n (%) Yes	p-value*	Male n (%) Yes	Female n (%) Yes	p-value*
Terminologies	Autism	118 (59.0)	15 (7.5)	66 (33.0)	1 (0.5)	59 (54.6)	59 (61.5)	0.32	38 (61.3)	80 (56.3)	0.49
	Hearing loss	173 (86.5)	0 (0.0)	11 (5.5)	16 (8.0)	92 (85.2)	81 (87.1)	0.72	54 (87.1)	119 (85.6)	0.78
	Learning issues	188 (94.0)	3 (1.5)	0 (0.0)	9 (4.5)	103 (95.4)	85 (92.4)	0.35	60 (96.8)	128 (90.1)	0.09
	Intellectual disability	162 (81.0)	1 (0.5)	21 (10.5)	16 (8.0)	89 (82.4)	73 (79.3)	0.59	51 (82.3)	111 (80.4)	0.74
	Speech sound disorders	85 (42.5)	11 (5.5)	80 (40.0)	24 (12.0)	42 (38.9)	43 (44.8)	0.39	25 (40.3)	60 (42.3)	0.78
	Delayed speech/language	159 (79.5)	1 (0.5)	17 (8.5)	23 (11.5)	83 (76.9)	76 (82.6)	0.28	52 (83.9)	107 (77.5)	0.29
Characteristics	Shouting harms voice	183 (91.5)	2 (1.0)	7 (3.5)	8 (4.0)	99 (91.7)	84 (91.3)	0.93	56 (90.3)	127 (92.3)	0.61
	Birth-visible disorders	60 (30.0)	12 (6.0)	88 (44.0)	40 (20.0)	33 (30.6)	27 (28.1)	0.71	20 (32.3)	40 (28.2)	0.56
	Loud noise harms hearing	187 (93.5)	0 (0.0)	4 (2.0)	9 (4.5)	102 (94.4)	85 (92.4)	0.57	58 (93.5)	129 (93.0)	0.91
	Autism limits social skills	88 (44.0)	34 (17.0)	29 (14.5)	49 (24.5)	43 (39.8)	45 (46.9)	0.27	26 (41.9)	62 (43.7)	0.81
	Understands misarticulation	101 (50.5)	29 (14.5)	36 (18.0)	34 (17.0)	49 (45.4)	52 (54.2)	0.20	31 (50.0)	70 (49.3)	0.92
Assessment	Refer late-talker to SLP/AuD	117 (58.5)	9 (4.5)	46 (23.0)	28 (14.0)	60 (55.6)	57 (61.5)	0.40	34 (54.8)	83 (58.5)	0.64
	Refer hearing loss to AuD	160 (80.0)	12 (6.0)	11 (5.5)	17 (8.5)	85 (78.7)	75 (81.5)	0.64	52 (83.9)	108 (76.1)	0.19
	Refer academic issues to SLP/psych	120 (60.0)	6 (3.0)	41 (20.5)	33 (16.5)	61 (56.5)	59 (61.5)	0.48	32 (51.6)	88 (62.0)	0.14
Rehabilitation	Stammering is manageable	96 (48.0)	38 (19.0)	21 (10.5)	45 (22.5)	46 (42.6)	50 (54.3)	0.09	28 (45.2)	68 (47.9)	0.74
	Knows legal concessions	66 (33.0)	35 (17.5)	72 (36.0)	27 (13.5)	32 (29.6)	34 (37.0)	0.27	18 (29.0)	48 (33.8)	0.50
	Cleft lip/palate is correctable	103 (51.5)	45 (22.5)	17 (8.5)	35 (17.5)	52 (48.1)	51 (55.4)	0.29	29 (46.8)	74 (52.1)	0.47
	Stroke rehab needs team care	161 (80.5)	10 (5.0)	9 (4.5)	20 (10.0)	86 (79.6)	75 (81.5)	0.75	51 (82.3)	110 (77.5)	0.44
	CP improves with treatment	84 (42.0)	45 (22.5)	6 (3.0)	65 (32.5)	38 (35.2)	46 (50.0)	0.03	26 (41.9)	58 (40.8)	0.89

*Chi-square test for public vs. private and male vs. female; $p < 0.05$ considered significant. CP = cerebral palsy; SLP = speech-language pathologist; AuD = audiologist; MDT = multidisciplinary team.

Table 3. Logistic Regression for Predictors of High Overall Awareness (N = 204)

Predictor Variable	Odds Ratio (OR)	95% CI	p-value
Private school (vs. public)	1.29	0.77–2.17	0.33
Female (vs. male)	1.15	0.65–2.04	0.62
Master's or higher qualification	1.40	0.83–2.38	0.20
Previous training on SLCN	2.09	1.04–4.19	0.04

DISCUSSION

The findings of this study provide important insight into the current state of awareness of communication disorders among primary school teachers in Gujranwala, Pakistan. Overall, teachers demonstrated relatively high awareness of general conditions such as "learning disability" (94.0%) and "hearing loss" (86.5%), but exhibited considerable deficits in knowledge related to more specific or clinically nuanced conditions such as "articulation disorders" (42.5%) and "autism" (59.0%). These patterns are consistent with previous research indicating that educators are generally more familiar with common or overt disabilities due to their visibility and frequent encounters in classroom environments (14). However, the lower recognition of conditions like autism and articulation disorders suggests that less overt or complex communication impairments remain poorly understood among generalist teachers, reflecting insufficient exposure to these topics during pre-service education or professional development.

In the domain of characteristics, while the vast majority of teachers correctly identified that shouting affects vocal health (91.5%) and that loud noise impairs hearing (93.5%), only 30.0% recognized that some communication disorders are identifiable at birth and less than half (44.0%) understood that autism hinders socialization. This under-recognition of developmental warning signs parallels international findings where teachers report feeling unprepared to identify early signs of speech, language, and communication needs (SLCN), highlighting a knowledge gap critical to early intervention efforts (15). The modest awareness about early markers is particularly concerning given that timely identification of conditions like developmental language disorder (DLD) has been shown to reduce long-term academic underachievement and mitigate negative psychosocial outcomes (4). Assessment-related knowledge showed moderate performance, with 80.0% of teachers appropriately indicating referral of a hearing-impaired child to an audiologist and 60.0% indicating they would seek professional help for academic difficulties. However, only 58.5% acknowledged that non-speaking children under two years of age should be referred to a speech-language pathologist (SLP), underscoring a lack of confidence in recognizing speech and language delays during critical early developmental windows. This pattern resonates with prior evidence indicating that teachers often lack the clinical acumen to identify atypical communication milestones without structured guidance (16), which can result in delayed referrals and lost opportunities for intervention.

The most striking deficits were observed in the rehabilitation domain, where fewer than half (48.0%) of teachers knew that stammering is treatable and only a third (33.0%) were aware of legal concessions available to individuals with communication disorders. These gaps suggest that while teachers may recognize overt communication difficulties, their understanding of available interventions and rights-based frameworks is limited to effective advocacy and referral within educational settings. This aligns with broader global literature documenting

low public understanding of therapeutic interventions for communication disorders and the need for sustained awareness-raising campaigns (17). Group-wise comparisons did not reveal substantial differences in awareness by school sector or teacher gender across most domains, except for slightly higher awareness among private school teachers regarding cerebral palsy's treatability ($p = 0.03$). This broadly uniform lack of awareness suggests that systemic issues—rather than school-specific factors—may underpin these knowledge gaps, emphasizing the need for national-level policy responses rather than isolated institutional reforms. Importantly, prior training on SLCN emerged as the only statistically significant predictor of higher overall awareness, with an adjusted odds ratio of 2.09 (95% CI: 1.04–4.19), affirming the critical value of targeted professional development interventions.

The study findings reinforce the need for integrated pre-service curricula that embed content on communication disorders, as well as sustained in-service training programs, possibly delivered collaboratively by speech-language pathologists, to address the identified gaps (18). Given the cumulative academic and social disadvantages experienced by children with undiagnosed communication disorders, bolstering teacher knowledge and referral competence is imperative for inclusive education systems. Moreover, culturally tailored training interventions that address locally prevalent misconceptions—for example, the underestimation of autism's impact on socialization or a lack of awareness regarding legal protections for children with communication disabilities—would ensure that programs are contextually relevant and impactful.

These findings must also be interpreted in light of the study's limitations, which include its cross-sectional design, restriction to one geographic district, and reliance on self-reported awareness rather than objective measures of teacher competence. However, the study addresses a critical gap in the literature, as few prior investigations have systematically examined Pakistani teachers' awareness of communication disorders, especially using a structured, domain-specific approach. Future research could expand to other regions, incorporate qualitative methodologies to explore teacher perceptions in greater depth, and assess the effectiveness of targeted training programs in improving both knowledge and classroom practice.

In conclusion, this study demonstrates that while primary school teachers in Gujranwala exhibit relatively high awareness of common communication conditions, they lack sufficient knowledge about nuanced disorders, early identification, and rehabilitation pathways. The absence of substantial differences between public and private school teachers underscores the systemic nature of this gap. Prior training on SLCN remains the key modifiable predictor of awareness, suggesting that national strategies aimed at equipping teachers with specialized knowledge could substantially improve early identification and referral for children at risk of communication-related educational disadvantage, thereby supporting inclusive education policies and promoting equity for children with communication disabilities (19).

CONCLUSION

This study provides a comprehensive assessment of primary school teachers' awareness of communication disorders in Gujranwala, Pakistan, revealing a pattern of generally adequate knowledge regarding common and overt conditions such as hearing loss and learning disabilities, but significant gaps in understanding of less visible, more complex conditions like autism, articulation disorders, and the principles of early identification and rehabilitation. The findings underscore that while most teachers recognize broad associations between environmental factors and communication outcomes (e.g., noise exposure and hearing loss), their awareness of nuanced developmental markers and referral pathways remains insufficient for effective early intervention. Notably, no substantial differences in awareness were observed by gender or school sector, suggesting that this is a systemic educational challenge rather than one confined to specific subgroups. Prior exposure to training on speech, language, and communication needs (SLCN) emerged as the strongest predictor of higher awareness, doubling the likelihood of adequate knowledge, which emphasizes the critical role of structured professional development programs in closing this knowledge gap.

These results highlight the urgent need for national education strategies to embed content on communication disorders into both pre-service teacher training curricula and in-service professional development programs, supported by collaboration with speech-language pathologists and aligned with international best practices. Addressing these gaps will equip teachers to serve as informed gatekeepers, facilitating timely identification and referral of children with communication needs, and ultimately improving educational access, academic outcomes, and social participation for affected students. By enhancing teachers' competence in this domain, schools can play a pivotal role in achieving inclusive education goals and supporting the developmental trajectories of children at risk of communication-related educational disadvantage.

REFERENCES

1. World Health Organization. International classification of functioning, disability and health. Geneva: WHO; 2001.
2. Raising Awareness of DLD (RADLD). #DLDday 2023 – DLD around the world [Internet]. 2023 [cited 2025 Jul 17]. Available from: https://radld.org
3. Health Service Executive (Ireland). Shine a light on DLD press release [Internet]. 2023 [cited 2025 Jul 17]. Available from: https://www.hse.ie
4. Ziegenfusz S, Paynter J, Flückiger B, Westerveld MF. Academic achievement in students with developmental language disorder: a systematic review. Autism Dev Lang Impairments. 2022;7:1–23.
5. Speech and Language UK. Listening to unheard children: survey report. London; 2023.

6. Ofsted. Education recovery in schools: summer 2024. London; 2024.

7. Zulfikar M, Abrahams M. Knowledge and readiness of teachers in implementing augmentative and alternative communication. Discov Educ. 2024;3:118.

8. McAllister C, Russell W, Reed F. Public awareness of speech-language pathology and communication impairments in Aotearoa New Zealand. Int J Speech Lang Pathol. 2024;26(2):1–13.

9. American Speech-Language-Hearing Association. Prevention of communication disorders: position statement. ASHA; 1991.

10. Riaz H, et al. Prevalence of speech sound disorders among primary school children in Punjab, Pakistan. J Islamabad Med Dent Coll. 2020;9(3):149–54.

11. Beitchman JH, Brownlie EB, Bao L. Language development and its impact on children's psychosocial and emotional development. Paediatr Child Health. 2014;19(6):303–4.

12. Dockrell J, Lindsay G. Identifying the educational and social needs of children with speech, language and communication difficulties. Br J Educ Psychol. 2011;81(2):131–43.

13. Law J, Boyle J, Harris F, Harkness A, Nye C. Prevalence and natural history of primary speech and language delay: findings from a systematic review of the literature. Int J Lang Commun Disord. 2000;35(2):165–88.

14. McLeod S, McKinnon DH. The prevalence of communication disorders compared with other learning needs in 14,500 primary and secondary school students. Int J Lang Commun Disord. 2007;42(Suppl 1):37–59.

15. Roulstone S, Wren Y, Bakopoulou I, Goodlad S, Lindsay G. Exploring interventions for children and young people with speech, language and communication needs: a study of practice. DfE Research Report DFE-RR247-BCRP10. London: Department for Education; 2012.

16. Andersson K, Sandgren O, Rosqvist I, et al. Enhancing teachers' classroom communication skills: effects of a continued professional development programme. J Res Read. 2022;45(4):601–20.

17. Martínez Boes C, Gonçalves V, et al. Oral language interventions across neurodevelopmental disorders: a meta-analysis. Child Lang Teach Ther. 2023;39(3):215–38.

18. Madhu Sudharshan Reddy. Awareness of speech language disorders among school teachers [master's thesis]. [Bangalore]: All India Institute of Speech and Hearing; 2019.

19. Jimdc.org.pk [Internet]. Prevalence of speech sound disorders among primary school children in Punjab; 2020 [cited 2025 Jul 17]. Available from: https://jimdc.org.pk