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Awareness, knowledge, and attitudes towards Developmental Language Disorders (DLD) among public university Students in Bangladesh

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Abstract

Background: Developmental Language Disorder (DLD) affects communication and learning, yet remains less identified throughout South Asia. The study investigated public university students' awareness, factual knowledge and attitudes towards DLD in Bangladesh, with a focus on gender and regional differences. **Method:** The research used a cross-sectional survey method to gather data from 167 participants between 18 and 30 years old who studied at public universities across all eight administrative divisions of Bangladesh. The researchers used an online questionnaire, which was validated by the experts in the field. The survey instrument used a Likert scale and multiple-choice items to assess participants' understanding of DLD, their factual knowledge, and their attitudes. The researchers used both descriptive and inferential statistics to analyse participant responses. **Results:** The participants demonstrated average to strong self-assessed understanding of DLD (M = 6.51, SD = 1.79) and displayed positive attitudes towards DLD (M = 15.28, SD = 3.59). The participants demonstrated poor factual knowledge of DLD (M = 1.26, SD = 1.17) because their recognition of the condition did not match their actual comprehension. The regression results showed that knowledge and attitudes both influenced awareness, but attitudes had a stronger effect. The study found that female students outperformed male students in every domain, and students in Dhaka demonstrated better understanding and more positive attitudes about DLD than students from other peripheral areas. The study also found that DLD attitudes differ substantially between different regions because these areas experience different levels of exposure and inclusiveness. **Conclusion:** The research explored that students hold a favourable positive attitude about DLD, yet lack sufficient knowledge about the condition, which requires specific awareness programs and educational initiatives.

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1. Introduction

Developmental Language Disorder (DLD), a neurodevelopmental condition, affects 7% of people worldwide according to McGregor (2020), yet remains poorly identified. The condition affects individuals' learning and using language correctly, even though their mental abilities, brain function and sensory systems remain normal. People with DLD face enduring challenges in their academic performance, their ability to communicate socially. The condition remains invisible to both public discussions and health policy frameworks (Norbury & Sonuga-Barke, 2017).

Previous studies show that people from the general public, educational staff, and even healthcare providers demonstrate poor understanding of DLD while holding different perspectives about the condition (Kim et al., 2022; Kraljević et al., 2022). The level of DLD awareness reaches higher levels in nations that focus on specific educational initiatives, yet remains very low throughout most developing and emerging economies. The presence of awareness about DLD does not automatically translate to proper comprehension of the condition. Research indicates that multiple incorrect beliefs about DLD exist among the public including the false assumption that DLD equals delayed speech and the mistaken belief that poor parenting causes the condition and the incorrect notion that it will resolve on its own (Matić et al., 2021; Nudel et al., 2023).

The way people view DLD through their beliefs and attitudes determines how support systems develop, early intervention programs operate and how society includes people with the condition in a community. The perception determines whether families will seek help and schools will implement inclusive practices or not. Positive views promote early intervention, whereas negative views create delays in diagnosis and reduce help-seeking (McGregor, 2020). Research about how people perceive DLD through attitudinal dimensions remains scarce, especially when focusing on South Asian populations and low- and middle-income countries.

The public education system of Bangladesh has not incorporated Developmental Language Disorder (DLD) into its curriculum, while clinical training and media discussions about the condition remain minimal. The study investigates how Bangladeshi university students perceive DLD through their awareness levels, their knowledge base and their attitudes toward the condition. The study evaluates the variance of perception about DLD in different demographics. The research explored the perception of this population to develop better educational programs, public health initiatives and policy changes.

1.1. Literature Review

Developmental Language Disorder exists as a widespread issue which receives inadequate attention from the public. The factual knowledge about the condition is limited, and people’s reactions to individuals with DLD mostly

stem from two different sources: one is clinical or educational institutions, and the other is public awareness initiatives (McGregor, 2020).

1.1.1. Global Awareness of DLD

Studies demonstrate that people across different regions show varying degrees of understanding about DLD. Kraljević et al. (2022) conducted research in the Adriatic region, which showed that 70% of Croatian, Italian and Slovenian adults responded that they had heard about DLD. But among the participants, 40% Italian, 20% Croatian and only 5% Slovenian can accurately define DLD. There is a targeted educational campaign in Croatia and Italy about DLD, which could make an impact on awareness levels in Croatian and Italian populations. Mostafa and Ahmed (2018) studied 1380 Egyptian participants who showed that 74.5% participants are aware of DLD, and 69% of them identified speech-language therapy as their preferred treatment method.

The public shows minimal understanding of Developmental Language Disorder (DLD) in nations that lack dedicated public health initiatives about this condition. The research conducted by Kim et al. (2022) found that Australian respondents showed minimal understanding of DLD since only 19.9% recognized the term, and even fewer could explain its meaning. The research indicates that economic development does not determine awareness levels because successful educational outreach programs play a crucial role in creating public understanding.

1.1.2. Misconceptions and Knowledge Gaps

The presence of awareness about a subject does not guarantee that people will understand it correctly. Research indicates that people who claim to know about DLD often possess superficial or incorrect information about the condition. The research by Matić et al. (2021) demonstrated that numerous study participants believed DLD represents a short-term condition which children naturally outgrow and they also believed language delays result from parental carelessness or child laziness. The incorrect beliefs people hold about DLD create obstacles for proper diagnosis and make them less likely to pursue professional help.

Healthcare providers demonstrate widespread knowledge deficits about DLD despite their professional expertise. The research by Nudel et al. (2023) revealed that numerous experts lacked understanding about DLD diagnostic methods and its enduring effects on patients. The existing knowledge deficits prevent proper referrals and lead to incorrect diagnoses, which result in underdiagnosis of DLD throughout healthcare systems.

1.1.3. Attitudes and Beliefs Toward DLD

The way society perceives and treats people with DLD through their attitudes and feelings of empathy and stigma determines the level of inclusive support they receive. Research on public attitudes toward DLD remains scarce but existing studies indicate that people generally hold positive views but their understanding remains limited. The research by Matić et al. (2021) revealed that people showed compassion toward DLD patients, yet they believed the condition could be treated through strict discipline and extra academic

work.The way people view DLD determines their willingness to seek help and their social participation, and their need for educational support. McGregor (2020) explains that public beliefs about DLD influence the actual support received by people with the condition in real-world situations, particularly in Low- and Middle-Income Countries where misinformation and stigma are more widespread.

1.1.4. DLD research in the South Asian Context

Studies about Developmental Language Disorder (DLD) in South Asia have not been sufficiently conducted. The study by Naureen et al. (2024) in Pakistan analysed pragmatic language problems in children aged 6 to 12 years to demonstrate the necessity for universal diagnostic standards and public education initiatives. The research by Abbasi (2022) demonstrated that parents and teachers in Pakistan lack sufficient knowledge about language learning disabilities. The research by Heys et al. (2017) in Nepal revealed that people lack understanding about autism and other neurodevelopmental disorders while facing challenges in accessing related services. The research by Koly et al. (2021) in India demonstrated that public understanding of developmental disorders focuses mainly on autism and intellectual disability, while Developmental Language Disorder (DLD) receives minimal recognition and priority. The research indicates that DLD remains hidden by more well-known conditions, while requiring the immediate implementation of standardised awareness programs and training initiatives throughout South Asia.

1.1.6. Research Gap in Bangladesh

The public understanding of Developmental Language Disorder (DLD) in Bangladesh has not received any systematic research attention despite rising interest in neurodevelopmental disorders. The situation becomes more critical because university students in Bangladesh represent the future workforce and care providers, and policy makers who will shape the country's development. Kuiack (2023) stresses the necessity of youth involvement in neurodevelopmental awareness initiatives through digital platforms and educational system changes. The assessment of DLD awareness, knowledge and attitude levels of acceptance among this population will help develop proper public health materials and early detection methods.

2. Methodology

2.1 Participants

The study recruited participants from public universities across all eight administrative divisions of Bangladesh. While 458 students were initially invited to take part in the study through an online link, 167 voluntarily responded and participated in the research. The age of participants ranged from 18 to 30 years. Gender representation included male and female participants. Participants were selected using a combination of purposive and snowball sampling techniques to maximize regional and academic diversity.

Table 1
Demographic characteristics of the participant

Variable	**Category**	**n**	**%**
Gender	Male	104	62.3%
	Female	63	37.7%
Division	Barishal	20	11.98%
	Chattagram	22	13.17%
	Dhaka	23	13.77%
	Khulna	23	13.77%
	Mymensingh	22	13.17%
	Rajshahi	19	11.38%
	Rangpur	20	11.98%
	Sylhet	18	10.78%

2.2 Data collection and processing

The research team created a structured questionnaire to evaluate participants' understanding of Developmental Language Disorder (DLD) and their related knowledge and attitudes. Two faculty members from the Department of Communication Disorders, University of Dhaka, reviewed and validated the initial draft independently. The expert feedback helped the researchers modify the questionnaire to achieve content validity and contextual appropriateness.

The researchers used Google Forms to distribute the online survey, which provided easy access for participants to complete the study. The research team distributed the questionnaire to 458 public university students across Bangladesh through a secure survey link, an informed consent form and a study purpose explanation. The consent form emphasised the voluntary nature of participation, assured respondent anonymity, and clarified that no personally identifiable information would be collected. Participants were also informed of their right to withdraw at any time without consequence. Out of the total recipients, 167 students voluntarily completed and submitted the survey within a three-week data collection period. After the collection phase, responses were downloaded and screened to remove incomplete or invalid entries.

The questionnaire was divided into four sections: (A) Demographic Information, (B) General Awareness, (C) Knowledge Assessment, and (D) Attitudes. Items in Section A gathered basic respondent data, including the university name, gender and administrative division. Section B measured awareness of DLD through three Likert-scale items and one dichotomous item. Section C assessed factual knowledge of DLD using multiple-choice and

multiple-response formats, which includes question about the recognition of DLD symptoms, age of identification, and permanence of the condition of DLD. Section D evaluated attitudes through Likert-scale statements on the educational inclusion of individuals with DLD, early intervention opportunities, and the academic and social impact of DLD.

2.3 Data analysis

The collected data from participant responses were analysed across three main sections: awareness, knowledge, and attitudes toward Developmental Language Disorder (DLD). In the awareness section, four items were included. The first three items were measured on a five-point Likert scale and recoded into a three-point format for analysis to enhance interpretative clarity: Strongly Disagree and Disagree were coded as 1, Neutral (clarified as "unsure or undecided") as 2, and Agree and Strongly Agree as 3. The fourth item was a binary Yes/No question on awareness of intervention services for DLD, scored as 1 or 0, respectively. The total awareness score ranged from 0 to 10. Clarification of scale meanings was included in the questionnaire to minimise ambiguity in the self-assessment of the participants.

In the knowledge assessment section, three questions were asked. The first allowed for multiple correct selections (three correct statements), while the next two were single-answer questions, each with one correct response. An explicit "Don't know" option was provided to reduce forced guessing. This section had a total possible score of 5 based on the number of correct answers.

The attitudes section included four items measured on a five-point agreement scale ranging from Strongly Disagree (1) to Strongly Agree (5). Respondents were instructed to answer based on their beliefs and perceptions, with interpretive guidance provided (e.g., Neutral defined as "unsure or undecided") to reduce social desirability bias and support accurate self-reporting. This section was scored out of a maximum of 20.

Descriptive statistical analysis was conducted on scores from all three sections to summarise participant responses. Correlation and multiple regression analysis were performed using Python (Anaconda platform) to examine potential collinearity and relationships among awareness, knowledge, and attitude.

3. Findings

3.1. Awareness, Knowledge, and Attitude Scores Toward Developmental Language Disorder (DLD)

The section contains result of the descriptive statistics that analyse three essential domains: Awareness, Knowledge and Attitude about (DLD). The analysis provides mean scores and standard deviations and total participant numbers for each domain to show how students understand and perceive Developmental Language Disorder (DLD).

Table 2
Scores in Three Domains: Awareness, Knowledge, and Attitude Toward DLD

Statistic	Awareness Score	Knowledge Assessment	Attitude
Count	167	167	167
Mean ± SD	6.51 ± 1.79	1.26 ± 1.17	15.28 ± 3.59

3.1.1. Awareness Score

The participants demonstrated an average awareness score of 6.51 (SD = 1.79) through their responses on a 0 to 10 rating scale. Most students demonstrated average to high understanding of DLD because their scores ranged between 5 and 8 on the IQR and their median score was 6. The distribution showed a slight negative skew of -0.03 and a platykurtic shape with kurtosis at -0.42 which indicates that responses were evenly distributed with few extreme values. The overall awareness level was satisfactory yet some participants achieved scores as low as 2 which demonstrated that certain individuals lacked sufficient understanding about DLD.

3.1.2. Knowledge Score

The participants demonstrated a low level of accurate DLD knowledge because their factual knowledge score averaged 1.26 (SD = 1.17) out of 3 possible points. Most students demonstrated either no understanding of DLD or held false beliefs about it because their scores ranged from 0 to 1 with a median of 1. The scores followed a positive skew (skewness = 0.33) and platykurtic distribution (kurtosis = -1.38), which showed that most scores clustered at the lower end but had few extreme values. The obtained results demonstrate a wide knowledge deficit which requires specific educational programs to address it.

3.1.3. Attitude Score

The participants showed positive attitudes toward children with DLD because their attitude scores averaged 15.28 (SD = 3.59) across the maximum output 20 scale. The majority of participants (75%) scored 17 which indicates they viewed children with DLD favourably and supported early intervention. The data points showed a negative skew (skewness = -1.53) and leptokurtic distribution (kurtosis = 2.85), which indicates that most participants held strong positive attitudes, but a few expressed less supportive opinions.

3.2. Relationship Among Awareness, Knowledge, and Attitudes Toward DLD

The study used Pearson's correlation and multiple regression analysis to examine how participants' awareness and factual knowledge, and their attitudes toward Developmental Language Disorder (DLD), relate to each

other. The research examined both the relationship strength between these domains and how knowledge and attitude influence outcome awareness.

3.2.1. Correlation Analysis

The three variables showed positive and statistically significant relationships according to Pearson's correlation coefficients, which appear in Table 3. The relationship between awareness and knowledge showed a weak positive correlation with r = 0.354, although the effect size remains small. The study found a moderate positive relationship between DLD awareness and attitude scores (r = 0.498), which shows that people who understand DLD better tend to hold more positive views about it. The relationship between knowledge and attitude scores showed a positive but weak correlation (r = 0.323), which indicates that factual knowledge has a minimal impact on how people believe about DLD. All correlations reached statistical significance at p < .005, which shows that these relationships exist beyond random chance.

Table 3
Pearson's Correlation Coefficients Between Awareness, Knowledge, and Attitudes Toward DLD

Variable	Awareness Score	Knowledge Assessment	Attitude
Awareness Score	1.000	0.354***	0.498***
Knowledge Assessment	0.354	1.000	0.323***
Attitude	0.498***	0.323***	1.000

p < .005

3.2.2. Multiple Regression Analysis

The study used multiple linear regression to determine which variables from knowledge assessment and attitude scores would predict awareness scores. The model achieved statistical significance ($F(2, 164) = 33.42$, $p < .001$) while explaining 29.0% of the variance in awareness scores ($R^2 = 0.290$; adjusted $R^2 = 0.281$). The results in Table 5 show that Knowledge assessment proved to be a significant predictor (B = 0.33, SE = 0.11, t = 3.10, p = .002), which indicates that better factual knowledge leads to slightly higher awareness levels. The results showed that Attitude demonstrated slightly stronger predictive factors for awareness scores (B = 0.21, SE = 0.04, t = 6.16, p < .001) than the knowledge score.

Table 4
Multiple Regression Predicting Awareness Scores from Knowledge and Attitude

Variable	Coefficient (B)	SE	t	p-value	R^2	Adj. R^2
Constant	2.84	0.52	5.50	<.001	0.290	0.281
Knowledge Assessment	0.33	0.11	3.10	.002		
Attitude	0.21	0.04	6.16	<.001		

These findings suggest that both cognitive and affective components (knowledge and attitude) significantly contribute to participants' self-reported awareness of DLD, with attitudes having a slightly stronger predictive power. This highlights the importance of awareness-raising initiatives that incorporate both factual content and emotional engagement.

3.3. *Divisional Analysis of Awareness, Knowledge, and Attitude Toward DLD*

The study presented descriptive statistics for awareness, knowledge, and attitudes toward DLD for each of Bangladesh's eight administrative divisions in Table 6. The participants from Dhaka Division achieved the highest scores in all three domains, with awareness at 7.22 (SD = 1.70), knowledge at 1.65 (SD = 1.40) and attitudes at 16.91 (SD = 3.07).

The participants from Chattogram, Sylhet and Barisal divisions displayed average awareness and positive attitudes, but their knowledge about DLD remained restricted. The lowest scores emerged from Rangpur and Mymensingh and Khulna divisions, where knowledge and attitudes toward DLD were particularly low, which indicates substantial regional differences in DLD understanding and perception. The results indicate that DLD understanding and belief differ across regions because people in various areas have different levels of access to information and educational resources and service availability.

Table 5
Divisional Analysis of Awareness, Knowledge, and Attitude Toward DLD

Division	Awareness (M ± SD)	Knowledge (M ± SD)	Attitude & Belief (M ± SD)
Barishal	6.65 ± 1.87	1.35 ± 1.09	16.10 ± 3.51
Chattagram	6.73 ± 1.88	1.45 ± 1.14	16.09 ± 3.52
Dhaka	7.22 ± 1.70	1.65 ± 1.40	16.91 ± 3.07
Khulna	6.26 ± 1.60	1.26 ± 1.10	13.70 ± 4.39
Mymensingh	5.77 ± 1.34	1.09 ± 1.19	14.23 ± 3.91
Rajshahi	6.32 ± 1.38	1.16 ± 1.07	15.53 ± 2.12
Rangpur	6.35 ± 2.21	0.85 ± 0.99	13.40 ± 3.73
Sylhet	6.83 ± 2.12	1.22 ± 1.35	16.39 ± 2.17

The researchers performed one-way ANOVA tests to determine if the observed differences reached statistical significance (Table 7). The awareness scores between different divisions showed no significant differences according to $F(7, 159) = 1.33$ and $p = .2389$. The results from the analysis showed that knowledge assessment scores maintained equal levels across different divisions, $F(7, 159) = 0.90$ and $p = .5047$. Neither knowledge and awareness score not reaches statistical significance. But the attitude scores between divisions produced a statistically significant difference, $F(7, 159) = 3.22$ and $p = .0032$, which indicates DLD attitudes differ substantially between regions. The research indicates that public understanding of DLD facts and awareness levels stay stable between regions, yet people in different areas hold different attitudes about the condition.

Table 6
One-Way ANOVA Results for Awareness, Knowledge, and Attitude Scores Across Divisions.

Variable	F-statistic	P-value
Knowledge assessment	0.9043	0.5047
Attitude	**3.2161**	**0.0032**
Awareness Score	1.3310	0.2389

Significant result bolded at p < .05 level.

3.4. Gender-based analysis of Awareness, Knowledge, and Attitude

The research analysed awareness, knowledge and attitude towards DLD differences between male and female participants. The study divided participants into two distinct groups based on their gender. The data presented in Table 8 shows that female participants achieved better results than male participants in every assessment area. The mean scores for females exceeded those of males in all three domains: awareness (M = 7.13, SD = 1.71), knowledge (M = 1.75, SD = 1.80) and attitudes (M = 16.84, SD = 2.73). The DLD score which combines all three domains showed higher values for females (M = 25.72, SD = 4.34) than for males (M = 21.38, SD = 5.14).

Table 7
Gender based Analysis of Awareness, Knowledge, and Attitude Toward DLD

Gender	Awareness (M ± SD)	Knowledge (M ± SD)	Attitude (M ± SD)	Overall DLD Score (M ± SD)
Female	7.13 ± 1.71	1.75 ± 1.80	16.84 ± 2.73	25.72 ± 4.34
Male	6.13 ± 1.74	0.95 ± 1.06	14.30 ± 3.71	21.38 ± 5.14

The researchers performed one-way ANOVAs to determine statistical significance for each domain. The results showed substantial gender-based differences in all three measured variables. The results showed significant gender differences in knowledge assessment $F(1, 165) = 11.38$ $p < .001$, attitude $F(1, 165) = 11.78$ $p < .001$ and awareness score $F(1, 165) = 6.70$ $p = .0016$. The study established that women demonstrated superior understanding of DLD and displayed more favorable opinions about the condition than men.

Table 8
One-Way ANOVA Results for Awareness, Knowledge, and Attitude Scores based on Gender

Variable	F-statistic	P-value
Knowledge assessment	11.3803	<0.0001
Attitude and belief	11.7791	<0.0001
Awareness Score	6.6970	<0.0001

4. Discussion

The research investigates the understanding of Developmental Language Disorder among public university students in Bangladesh based on their gender and the region they live in. The study revealed that people in this population demonstrate strong awareness of DLD and positive attitudes, yet they lack sufficient knowledge about the condition.

The result found that the average awareness score about DLD is high for the study group. The results match previous research findings, which show that people tend to report higher awareness than their actual comprehension of DLD. Kraljević et al. (2022) conducted a study that revealed that numerous participants believed they knew about DLD, while they could not differentiate it from other developmental or language-related conditions. People develop an exaggerated sense of DLD knowledge because they encounter related terms through casual conversations, but lack proper education about the condition. Another survey results show that people learn about DLD through media and everyday conversations instead of professional or academic resources (Kim at el., 2022). The study shows that public comprehension of DLD exists at a basic level thus requiring targeted awareness programs to link recognition with proper understanding. The public and private sectors, along with government-funded initiatives such as the Child Development Centre (CDC) and Neurodevelopmental Disability Protection Trusts (Alam, Hand, & Ballard, 2023), have worked to increase the identification and discussion of DLD in Bangladesh over the past two decades. The interaction with media, internet access, social media platforms and awareness campaigns from national and international NGOs has disseminated superficial knowledge among the people in Bangladesh.

The participants showed average awareness, but their knowledge scores remained at a low level. The results match international patterns because people in countries with advanced speech-language services still demonstrate poor comprehension of DLD. McGregor (2020) discovered that the general public mixes up DLD with autism spectrum disorder and believes speech delay equals DLD. People lack understanding about how common DLD is among children (7-10% prevalence) and its lasting effects on learning and social growth. The insufficient understanding of DLD in Bangladesh leads to delayed interventions and social discrimination against children with the condition because the country lacks proper speech-language pathology education and

early diagnosis systems. The lack of DLD information in formal educational materials and health resources maintains its hidden status in the public domain. The scarcity of DLD-related content in Bangladeshi educational materials and media serves as a reason why people lack specific knowledge about the condition.

Most participants from different groups showed positive attitudes about DLD because they recognised the necessities for early intervention, inclusive support and public education. The study by Matić et al. (2021) demonstrates that individuals develop a more positive view of DLD after experiencing it in real-life situations, which leads them to support educational and social inclusion. The results indicate that cultural values emphasizing inclusiveness exist despite limited formal information about DLD. These positive attitudes toward DLD might exist without leading to concrete actions. The absence of sufficient knowledge prevents public support from becoming effective advocacy, which in turn hinders community-wide transformations. The main task for policymakers consists of converting existing positive attitudes into concrete actions, such as launching school screening, language intervention service promotion and stigma resistance.

The research showed that female participants outperformed male participants in every domain, which included awareness, factual knowledge and attitudes towards DLD. The results match previous research on health literacy and developmental psychology, which shows gender differences in both national and international studies (Pervin & Hagmayer, 2022). The study results about gender differences in DLD knowledge match Kraljević et al. (2022), who studied adults from Adriatic region countries. The number of female students is growing in Bangladeshi public universities who study education, psychology and social sciences because these fields incorporate child development knowledge (Ahmmed & Sharma, 2012). Women in Bangladeshi society usually receive an automatic cultural expectation that prepares them for roles which involve caring for children and families through professional work and domestic responsibilities. Women in society commonly enter teaching, nursing and early childhood education roles because these professions match their nurturing nature. The cultural norms in this society make women more aware of child development stages and more sensitive to speech or language problems in children (Islam et al., 2022). Research indicates that female students demonstrate higher emotional involvement and better social attitudes when interacting with a person with pity. Women in Western and South Asian societies demonstrate higher emotional empathy and concern for vulnerable populations, which leads to more positive views about children with neurodevelopmental disorders (Yeasmin, 2024). The study results show that female participants demonstrated better knowledge about DLD and more positive attitudes because emotional factors strongly influence how people perceive and support DLD. In addition, the way universities organise their structure and outreach programs could influence these results. The majority of female students join student organisations or extracurricular activities which focus on health advocacy, disability rights, inclusive education and mental health awareness rather than athletics (Khan, 2011). The research demonstrates how educational experiences, cultural expectations, emotional involvement and extracurricular activities create

differences in DLD understanding between men and women. While female students demonstrated stronger performance across all domains, these advantages should not obscure the broader need for gender-inclusive educational interventions that ensure all university students, regardless of academic track or gender.

The findings of the study indicate that students of Dhaka, capital of Bangladesh achieved the highest results in DLD awareness, knowledge and attitude assessment than other peripheral areas of the country. The research findings also reveal that educational infrastructure, resource distribution, and social perceptions across different regions in Bangladesh create various obstacles towards DLD. The healthcare system of Bangladesh, together with special education services, primarily maintain their operations in urban areas. The major institutions based in Dhaka, where speech therapy clinics, special education centers and disability support NGOs are operating. These initiatives usually work with universities and welcome student volunteers. The practical experience of working with these services enables students to develop a better understanding and more positive attitudes toward DLD (Begum, Perveen, & Chakma, 2019). The absence of such services in peripheral areas like Rangpur, Khulna and Mymensingh results in insufficient knowledge and disinterest about Developmental Language Disorder. The different divisions exhibit major variations regarding their academic educational program availability. The universities in the capital has departments and faculty members who specialise in child development, special education and speech-language pathology, which enables students to study DLD and participate in research seminars and thesis supervision (Tamanna et al., 2025). The public universities located in out of Dhaka divisions do not have specialised academics who teach DLD-related subjects, which hinders student participation in these subjects.

People's media literacy skills and digital access determine their understanding of information, which affects their awareness levels. Students from urban areas access media campaigns, educational resources, and NGO awareness materials, while students from peripheral areas rely mostly on textbooks and traditional classroom teaching that fails to include discussions about DLD or neurodevelopmental disorders (Choudhuri et al., 2005). The digital disparities between students hinder them from grasping modern inclusive education principles effectively. The research shows that DLD awareness differences between regions result from educational, structural, social and cultural aspects. The implementation of specific programs should target all public universities to establish inclusive education as a core subject in their standard curriculum, especially in areas with restricted resources.

The combination of cultural prejudices and disability discrimination between different areas produces substantial knowledge gaps. The rural sections with conservative values throughout the country hold false beliefs about developmental disorders, which blame DLD on poor parenting and spiritual or moral issues (Beutel, Tangen, & Carrington, 2019). The deeply ingrained beliefs about developmental disorders may lead students and teachers to develop unfavourable perspectives or dismiss that educational institutions with weak support for inclusive education programs tend to experience higher rates of stigma and false information about developmental

disabilities (Dundar et al., 2014). Institutional development in the peripheral areas remains underdeveloped because these areas lack programs that integrate health education with multiple disciplines. Institutional limitations prevent students from accessing courses about language development, learning disabilities and inclusive teaching methods (Anitha et al., 2022). Students in under-resourced educational systems tend to develop surface-level understanding, which they mistake for deep comprehension, thus creating this knowledge gap.

The findings of the study indicate that students' awareness depends on both their knowledge and attitudes, but attitudes show a slightly stronger relationship with awareness. It shows that public university students in Bangladesh demonstrate better emotional and value-based involvement than factual understanding of Developmental Language Disorder. The absence of developmental and speech-language disorder content in undergraduate curricula represents a primary reason for this educational gap. Students who study outside medical, psychology and education departments at public universities do not receive any formal training about neurodevelopmental disorders, including Developmental Language Disorder. The way people understand DLD develops from unstructured sources, including media content, social encounters and community stories, according to Siddique et al. (2022). The sources tend to use emotional content, personal stories and moral obligations to create empathy in people who lack proper knowledge about the subject (Marzan et al., 2021). The Bangladeshi public seems to base their understanding of DLD more on empathy and social values than on clinical knowledge, even though participants show strong positive attitudes. The research shows that social beliefs and emotional orientation play a more significant role than knowledge in developing public understanding of developmental disorders because attitudes proved more influential than knowledge in this context.

The collectivist cultural framework of Bangladesh strengthens the impact of affective involvement on public behaviour. The values of community welfare for communities, moral duty and compassion form essential parts of youth identity and public conduct in collectivist societies (Soorkia, Snelgar, & Swami, 2011). Students tend to support DLD early intervention programs and inclusive education because of their emotional and ethical beliefs about the matter even though they lack deep understanding of diagnostic procedures and intervention methods. The observed pattern of high awareness and positive attitudes without sufficient knowledge matches previous research on health issues throughout Bangladesh and South Asia. College students in Hossain et al. (2020) showed positive social attitudes toward thalassemia patients although they demonstrated minimal understanding of the condition. The study by Siddique et al. (2022) revealed that Bangladeshi students displayed high mental health awareness but their factual understanding remained poor which suggests that brief social media and peer contact creates a false sense of understanding.

The emotional nature of public awareness in Bangladesh presents a chance for intervention instead of being considered a drawback. Public health initiatives that use child rights and religious or moral narratives and empathetic storytelling will prove more successful than clinical or academic

approaches for increasing both awareness and behavioural intent about DLD. Seewooruttun (2013) discovered that South Asian communities responded better to emotionally engaging interventions through film-based stories than to fact-based instruction for stigma reduction.

The study has some limitations, including the fact that the number of students from the region is not substantial enough to represent the students of the region. The sample size and the convenience sampling approach may limit the generalizability of the results. In addition, to assess awareness, knowledge and attitude standardized tool with psychometric validation would assess it with more precision instead of the one. Along with the quantitative study, a mixed-methods research design would provide a deeper understanding of the topic.

5. Conclusion

The study aimed to assess the awareness, knowledge and attitude of university students towards DLD in Bangladesh. Participants show a positive attitude and good awareness while scoring low in factual knowledge. The students who reside in Dhaka were more aware, knowledgeable and positive towards DLD than in other peripheral areas. This indicates the disparity between the students from the capital city and other regions of Bangladesh. On the other hand, female students were more aware, knowledgeable and positive towards DLD than male that also demonstrates the gender difference about the issue. Attitude and knowledge both are contributes on the level of awareness, though attitude was a slightly stronger predictive factor for awareness, which indicates the emotional nature is emphasized more than the cognitive factor in terms of awareness about DLD. Despite the study has limited sample size and design constraints, it provides a primary understanding of the topic and lay foundation for further studies. It also indicates the regional and gender based differences to design targeted initiatives for increasing awareness, knowledge and positive attitudes towards DLD in Bangladesh.

References

Abbasi, A. M. (2022). Exploring awareness of learning disabilities among children. *University of Chitral Journal of Linguistics and Literature, 6*(1), 390-406. doi:10.33195/tt9y1j15

Ahmmed, M., & Sharma, U. (2012). Variables affecting teachers' attitudes towards inclusive education in Bangladesh. *British Journal of Special Education, 39*(3), 137-144. doi:10.1111/j.1471-3802.2011.01226.x

Alam, M. J., Hand, L., & Ballard, E. (2023). Communication disability in Bangladesh: Issues and solutions. *Speech, Language and Hearing, 26*(1), 74-85. doi:10.1080/2050571X.2022.2075174

Anitha, C. T., Akter, K., & Mahadev, K. (2022). An overview of public health education in South Asia: Challenges and opportunities. *Frontiers in Public Health, 10*, Article 909474. doi:10.3389/fpubh.2022.909474

Begum, H. A., Perveen, R., & Chakma, E. (2019). The challenges of geographical inclusive education in rural Bangladesh. *International Journal of Inclusive Education, 23*(9), 948-962. doi:10.1080/13603116.2018.1514729

Beutel, D., Tangen, D., & Carrington, S. (2019). Building bridges between global concepts and local contexts: Implications for inclusive education in Nepal, Sri Lanka, and Bangladesh. *International Journal of Inclusive Education, 23*(9), 903-919. doi:10.1080/13603116.2018.1514763

Choudhuri, M. A., Alam, J., Hasan, R., & Rashida, S. A. (2005). *Situational analysis and assessment of education for children with disabilities in Bangladesh, South Asia, East Asia and South Africa.* Retrieved from https://hpod.law.harvard.edu/pdf/Kar-thematic_edu.pdf

Dundar, H., Beteille, T., Riboud, M., & Deolalikar, A. (2014). *Student learning in South Asia: Challenges, opportunities, and policy priorities*. Washington, DC: World Bank. Retrieved from https://books.google.com/books?hl=en&id=luu-AwAAQBAJ

Ferdous, M. Z., Islam, M. S., Sikder, M. T., Mosaddek, A. S. M., Zegarra-Valdivia, J. A., & Gozal, D. (2020). Knowledge, attitude, and practice regarding COVID-19 outbreak in Bangladesh: An online-based cross-sectional study. *PLOS ONE, 15*(10), Article e0239254. doi:10.1371/journal.pone.0239254

Heys, M., Alexander, A., Medeiros, E., Tumbahangphe, K. M., Gibbons, F., Shrestha, R., ... & Pellicano, E. (2017). Understanding parents' and professionals' knowledge and awareness of autism in Nepal. *Autism, 21*(4), 436-449. doi:10.1177/1362361316646558

Hossain, M. S., Hasan, M. M., Raheem, E., & Islam, M. S. (2020). Lack of knowledge and misperceptions about thalassaemia among college students in Bangladesh: A cross-sectional baseline study. *Orphanet Journal of Rare Diseases, 15*, 1-9. doi:10.1186/s13023-020-1323-y

Islam, N. N., Sumit, A. F., Chowdhury, M. M., Ullah, M. A., & Araf, Y. (2022). Age and gender-related differences in quality of life of Bangladeshi patients with Down Syndrome: A cross-sectional study. *Heliyon, 8*(2), Article e00065. Retrieved from https://www.cell.com/heliyon/fulltext/S2405-8440(22)00065-2

Khan, T. A. (2011). *Investigation of secondary school teachers' attitudes towards and knowledge about inclusive education in Bangladesh* (Master's thesis). University of Canterbury, Christchurch, New Zealand. Retrieved from http://ir.canterbury.ac.nz/bitstream/10092/6290/1/thesis_fulltext.pdf

Kim, J. H., Davies, B., & Xu Rattanasone, N. (2022). Have you heard of developmental language disorder? An online survey. *Communication Disorders Quarterly, 44*(4), 228-238. doi:10.1177/15257401221115822

Koly, K. N., Martin-Herz, S. P., Islam, M. S., Sharmin, N., Blencowe, H., & Naheed, A. (2021). Parent mediated intervention programmes for children and adolescents with neurodevelopmental disorders in South Asia: A systematic review. *PLOS ONE, 16*(3), Article e0247432. doi:10.1371/journal.pone.0247432

Kuiack, A., & Archibald, L. (2019). Developmental Language Disorder: The childhood condition we need to start talking about. *Frontiers for Young Minds, 7*, Article 94. doi:10.3389/frym.2019.00094

Kuiack, A. K. (2023). *Exploring collaboration and evidence-based practice in speech-language pathology* (Master's thesis). Western University, London, ON, Canada. Retrieved from https://ir.lib.uwo.ca/etd/8195

Kuvač Kraljević, J., Matić Škorić, A., Roch, M., Kogovšek, D., & Novšak Brce, J. (2022). Public awareness of developmental language disorder in Croatia, Italy and Slovenia. *International Journal of Language & Communication Disorders, 57*(6), 1269-1280. doi:10.1111/1460-6984.12752

Marzan, M., Islam, D. Z., & Lugova, H. (2021). Knowledge, attitudes, and practices of antimicrobial uses and resistance among public university students in Bangladesh. *Infection and Drug Resistance, 14*, 1927-1936. doi:10.2147/IDR.S289964

Matić, A., Kuvač Kraljević, J., Kogovšek, D., Novšak Brce, J., & Roch, M. (2021). Developmental language disorder and associated misconceptions: A multi-country perspective. *Hrvatska revija za rehabilitacijska istraživanja, 57*(1), 145-157. doi:10.31299/hrri.57.1.8

McGregor, K. K. (2020). How we fail children with developmental language disorder. *Language, Speech, and Hearing Services in Schools, 51*(4), 981-992. doi:10.1044/2020_LSHSS-20-00003

Mostafa, E., & Ahmed, M. E. R. (2018). Public awareness of delayed language development in Upper Egypt. *The Egyptian Journal of Otolaryngology, 34*, 94-102. doi:10.4103/ejo.ejo_46_17

Naureen, T., Ullah, R., & Riaz, M. (2024). Developmental language disorders in children: A case of 6 to 12 year old children with pragmatic difficulties in Pakistan. *Asian Innovative Journal of Social Sciences and Humanities, 8*(1), 1-16.

Norbury, C. F., & Sonuga-Barke, E. (2017). New frontiers in the scientific study of developmental language disorders. *Journal of Child Psychology and Psychiatry, 58*(10), 1065-1067. doi:10.1111/jcpp.12821

Nudel, R., Christensen, R. V., Kalnak, N., Schwinn, M., Banasik, K., Dinh, K. M., ... & DBDS Genomic Consortium. (2023). Developmental language disorder–A comprehensive study of more than 46,000 individuals. *Psychiatry Research, 323*, Article 115171. doi:10.1016/j.psychres.2023.115171

Pervin, M., & Hagmayer, Y. (2022). Attitudes towards evidence-based practice of professionals working with children and adolescents with autism spectrum disorder in Bangladesh. *Administration and Policy in Mental Health and Mental Health Services Research, 49*(3), 311-325. doi:10.1007/s10488-022-01205-2

Seewooruttun, L. (2013). *Piloting the effect of a film-based intervention on attitudes and stigma towards people with intellectual disabilities in the South Asian community* (Doctoral dissertation). University College London, London, England. Retrieved from https://discovery.ucl.ac.uk/id/eprint/1409922/

Siddique, M. A. B., Ovi, M. R., Ahammed, T., & Chowdhury, M. A. B. (2022). Mental health knowledge and awareness among university students in Bangladesh. *Heliyon, 8*(9), Article e09768. Retrieved from https://www.cell.com/heliyon/fulltext/S2405-8440(22)02372-6

Soorkia, R., Snelgar, R., & Swami, V. (2011). Factors influencing attitudes towards seeking professional psychological help among South Asian

students in Britain. *Mental Health, Religion & Culture, 14*(6), 613-623. doi:10.1080/13674676.2010.494176

Tamanna, T., Barua, E., Kabir, M. N., & Ahmed, Z. (2025). Regional mental health disparities among university students in Bangladesh: A comprehensive factor analysis and predictive modeling approach. *Humanities & Social Sciences Communications*. doi:10.1007/s43545-025-01094-w

Yeasmin, H. (2024). *The attitudes of the non-disabled students toward students with disabilities in the selected school in Savar* (Unpublished master's thesis). Daffodil International University, Dhaka, Bangladesh. Retrieved from http://202.4.109.28:8080/xmlui/handle/123456789/1071

Appendices -1

Survey Questionnaire

Section A: Demographic Information
1. Age: _____ - [ ] 18-21 - [ ] 22-25 - [ ] 26-30
2. Gender:
- [ ] Male - [ ] Female
3. Division you live in:
- [ ] Dhaka - [ ] Chattogram - [ ] Khulna- [ ] Rajshahi - [ ] Sylhet - [ ] Barisal - [ ] Rangpur - [ ] Mymensingh
4. Name of your University: -

Section B: General Awareness of DLD
Please rate your agreement with the following statements:
(1 =Never heard 2 = heard , 3 = heard little, 4 = know little, 5 = Well aware)
QB1. I have heard of Developmental Language Disorder (DLD).
[ ] 1 [unknown] 2 [ ] 3 [ ] 4 [ ] 5 [known]
QB2. I understand and recognize what DLD is.
[ ] 1 [unknown] 2 [ ] 3 [ ] 4 [ ] 5 [known]
QB3. I can recognize potential signs of DLD in children.
[ ] 1 [unknown] 2 [ ] 3 [ ] 4 [ ] 5 [known]
QB4. Are you aware of any professional services available for DLD in your area?
- [ ] Yes - [ ] No

Section C: Knowledge Assessment

QC1. Which of the following are potential signs of DLD? (Select all that apply)
- [ ] Difficulty following instructions
- [ ] Poor vocabulary compared to peers
- [ ] Trouble forming complete sentences
- [ ] Physical disability
- [ ] Difficulty maintaining conversations
- [ ] Poor memory
- [ ] Don't know

QC2. At what age can DLD typically be identified?
- [ ] Birth
- [ ] 2-3 years
- [ ] 4-5 years
- [ ] Above 6 years
- [ ] Don't know

QC3. Is DLD: (Choose one)
- [ ] A temporary condition that children outgrow
- [ ] A lifelong condition that requires support (Right answer)
- [ ] A contagious disorder
- [ ] Don't know

Section D: Attitudes and Beliefs

QD1. Children with DLD can succeed in regular schools with proper support.

1 [negative] 2 [ ] 3 [ ] 4 [ ] 5 [positive]

QD2. Early intervention is important for children with DLD.

1 [negative] 2 [ ] 3 [ ] 4 [ ] 5 [positive]

QD3. DLD affects a child's academic performance.

1 [negative] 2 [ ] 3 [ ] 4 [ ] 5 [positive]

QD4. DLD affects a child's social relationships.

1 [negative] 2 [ ] 3 [ ] 4 [ ] 5 [positive]