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RESEARCH REPORT

The Stuttering Truth: Uncovering the Prevalence and Impact Amongst School Children in the Ablekuma South District, Ghana

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ABSTRACT

Background: Stuttering is a neurodevelopmental disorder affecting speech flow, often hampering social interaction and academic performance in childhood. However, data on the prevalence and impact of stuttering amongst school-aged children remains limited in Ghana.

Objective: This study aimed to determine the prevalence, gender distribution, hereditary patterns and impact of stuttering amongst school-aged children in the Ablekuma South district, Greater Accra region.

Methods: Using a cross-sectional study design, a multistage cluster sampling approach was used to screen a total of 829 children (7–12 years) from five public and private primary schools within the Ablekuma South district. Twenty-three (23) Children who stutter (CWS) were identified utilising a two-pronged approach that involved an initial screening by a class teacher and a subsequent clinical assessment by a licensed speech and language pathologist. The Overall Assessment of the Speaker's Experience of Stuttering (OASES) tool was used to determine the impact of stuttering on the participants.

Results: The prevalence of stuttering amongst the children was 2.77% ($n = 23$) with an average onset age of 5.02 ± 2.3 years. Male participants were approximately eight times at risk of stuttering compared to their female counterparts ($p < 0.01$; CI = 2.351–27.049). Majority (17, 73.9%) of the children who stutter (CWS) reported a family history of stuttering, primarily involving a biological parent. Also, a significant number of CWS, 87.0% ($n = 20$), reported that stuttering substantially impacted their wellbeing.

Conclusions: A section of school-age children in Ghana, particularly boys, may be at an increased risk of stuttering, with implications for the child's wellbeing. However, no formal system exists to detect CWS or identify the challenges CWS face in Ghana. A family history of stuttering can prompt early screening and evaluation. An efficient screening system that ensures early detection is essential to support affected students.

WHAT THIS PAPER ADDS

What is already known on this subject

- Several studies have explored the prevalence of stuttering, its impact, and its prevalence amongst school-aged children. The majority of these studies took place in developed nations that provide early screening and intervention services for school-aged children.

What this paper adds to the existing knowledge

- This study, the first in Ghana, adds to our understanding of stuttering amongst school-aged children. The prevalence of stuttering amongst this population is 2.77%, and males are eight times at risk of stuttering than females. The findings suggest that most school-aged children in Ghana experience moderate to severe impacts on their overall quality of life due to stuttering. Additionally, children who stutter in Ghana face challenges in accessing speech and language therapy services or social support through self-help groups.

What are the potential or actual clinical implications for this work?

- A significant number of school-aged children who stutter in a developing nation such as Ghana have no access to clinical services or formal support. Speech and language pathologists (SLPs) need to collaborate with educators to implement early screening and the identification of children who stutter. SLPs need to follow up after the identification of stuttering to provide speech and language therapy services to ensure children are not adversely impacted by it and, where necessary, refer them for psychological support.

1 | Introduction

Stuttering is a neurodevelopmental impairment that affects an individual's fluency. This disturbance results in speech characterised by frequent repetitions, broken words (e.g., bana-na), sound and syllable prolongations (e.g., mmmummy), silent blocking (where the movement of the tongue, lips, jaw and the forward flow of air stops), circumlocutions, physical tensions when speaking, and monosyllabic whole-word repetitions (American Psychiatric Association 2013). The typical age of stuttering onset is reported to be approximately 33 months (Yairi and Ambrose 2013). Stuttering negatively impacts education and employment outcomes (Boyce et al. 2022), leads to stigmatisation (Boyle 2018), role entrapment (Dew and Gabel 2024) and increases the odds of social anxiety disorders (Iverach et al. 2016) amongst people who stutter.

Varying methods have been used to determine stuttering prevalence rates. Typically, most research employs speech and language practitioners/clinicians who use direct assessments, following parental (Unicomb et al. 2020) or teacher reports about stuttering, or teacher referrals (Nandhini Devi et al. 2018). In contrast, some researchers rely on self-reports or telephone interviews to confirm a stuttering diagnosis (Felsenfeld et al. 2000). In addition to differing methods, operational definitions and sample characteristics such as age, gender of subjects, genetic effects may also account for variability in reported prevalence rates, within countries and across countries.

In early childhood, the incidence of stuttering is around 5% to 15%, with approximately 75%–80% of affected children experiencing natural recovery, typically within a few years of onset (Yairi and Ambrose 1999). Although a large percentage recover naturally, there is evidence to show that stuttering persists for some children. Bloodstein et al. (2021) report a lifetime incidence of 8% to 10%. Natural recovery is more common amongst females compared to their male counterparts (Proctor et al. 2008). Research by Karbasi et al. (2011) amongst school-aged children and preschoolers revealed a prevalence ratio of 2.5 to 1 for males and females who stammered. A similar study by McKinnon et al. (2007) suggested a higher male-to-female stuttering prevalence ratio of 7.5:1.

Exploring global variability in stuttering prevalence, results from an epidemiology review of over 40 prevalence studies worldwide, including Belgium, Australia, the United States of America and Greece, suggest a prevalence rate of stuttering ranging between 0.3% to 5.6% in children (Yairi and Ambrose 2013). In Africa, where studies on stuttering prevalence are scarce, two studies (Abou Ella et al. 2015; Oyebowale et al. 2004) from Egypt and Nigeria suggest a prevalence rate of 1%. In Egypt, a stuttering prevalence rate of 1.03% was established amongst 8765 children aged between 7 and 12 years, based on a teacher's referral and a subsequent speech and language pathologist's assessment (Abou Ella et al. 2015). On the other hand, Oyebowale et al. (2004) found a slightly lower stuttering prevalence rate of 0.9% in their study of 2562 children (with a mean age of 11.5 years) in Nigeria.

Family history is another factor that affects the prevalence rates of stuttering. For instance, Abou Ella et al. (2015) demonstrated a positive family history of stuttering, with 28% of school-aged children reporting family members who stammered. In another study by Choi et al. (2018), a positive family history of stuttering was found in 24% of CWS and 12% of children who did not. Further, in a study by Darmody et al. (2022) amongst 739 PWS, it was found that there is a 60% positive family history of stuttering. The study also suggested that males and females have similar increased odds of stuttering if their fathers stammer relative to their mothers, with females reporting an earlier onset than male respondents. These studies provide evidence that, in some cases, the experience of stuttering is genetic or heredity.

As a result of speech impairment, CWS are more likely to struggle with anxiety, have low self-esteem, and be bullied or victimised (Boyle 2018; Cook and Howell 2014; Iverach et al. 2016). Negative stuttering experiences can impair the development of social, behavioural and emotional skills (Brignell et al. 2021; McAllister 2016). Despite its prevalence and resulting negative consequences, many CWS remain unidentified and unsupported, particularly in low- and medium-income countries (Nonis et al. 2022). Varghese et al. (2023) suggest that if prevalence rates are accurately known, there will be an evidence base for targeted interventions, such as screening and justifying the allocation of academic, mental health and social resources. By establishing local prevalence data, findings from this study can inform the designing of targeted interventions such as routine screening, early referral pathways to speech and language specialists, and school support to improve the wellbeing of affected CWS. Against this backdrop, this study aimed to determine the prevalence, gender distribution, hereditary patterns, and impact of stuttering amongst school-aged children in Ghana, where data on CWS remains limited.

2 | Materials and Methods

2.1 | Methods

2.1.1 | Study Design and Sites

This cross-sectional study took place in five primary schools in the Ablekuma South Sub-district of the Greater Accra region of Ghana, focusing on children aged 7 to 12. Ghana, situated in West Africa, has a total population of 30 832 019 and is divided into 16 regions, with Greater Accra serving as its national capital (Statistical Service Ghana 2021). The Greater Accra region is further divided into 14 sub-districts (also known as Metropolitan, Municipal or District Assemblies). The largest district within the Greater Accra Region, Ablekuma South, was purposively selected for this study. Ablekuma South covers an area of 15.1 km^2 and holds an estimated population of 110 158 (Statistical Service Ghana 2021).

Ethical approval was granted by the Ethics Review and Protocol Committee (ERPC) of a relevant academic institution. The Ablekuma South sub-Metropolitan Assembly and the Department of Social Welfare granted permission for the study. After an initial screening procedure by teachers, consent and assent were obtained from parents and qualified children.

2.1.2 | Population and Sample Characteristics

Using a multistage cluster sampling strategy, 828 school-aged children were recruited for this study, based on the Expected Prevalence (EP) of 2%, a margin of error or absolute precision of ±1%, a 95% confidence level, and potential attrition of 9%. First, the Ablekuma district was clustered into five groups based on electoral areas. Using the simple random sampling method, two of the five electoral areas (Chorkor and New Mamprobi) were selected. Further, five schools were randomly chosen from these two electoral areas. Children within these five schools met the study inclusion criteria if they were aged 7–12, had an enrolment status greater than 4 months, and had confirmed diagnosis of stuttering. Children aged 7–12 years were purposively sampled because it is evidenced that natural recovery typically occurs before age 7 (Yairi and Ambrose 1999; Reilly et al. 2013). Our focus on this age group was to increase the success of identifying cases of persistent stuttering, rather than transient developmental disfluencies. Additionally, this age range is critical due to heightened academic and social demands, making it an important period for targeted support and intervention (Eggers et al. 2021; Boyle 2018). Children outside the age bracket of 7–12 years, struggling with other neurological conditions, and with unreturned parental informed consent forms were excluded from the study.

2.1.3 | Screening and Recruitment

The recruitment of participants involved a two-tiered screening and diagnostic process, which first began with an initial screening by teachers, using an 8-item checklist based on the DSM-V (American Psychiatric Association 2013) and relevant literature (Guitar 2014)—which was prepared by the principal researcher. The checklist consisted of eight features or signs that depicted core behaviours associated with stuttering, escape behaviours, and avoidance behaviours. The confirmation of at least one of the signs or features on the stuttering screening checklist qualified a child to be referred for further assessment. The teacher underwent a 1-day training to improve accuracy and consistency of how to use the screening tool. In total, 25 students were referred to the licensed Speech and Language Pathologist (SLP) to confirm a diagnosis of stuttering.

To move on to the stage of recruitment, a parent was required to provide informed consent and the child, assent. Parents were informed about the study via an initial phone call from the school staff, this was followed up with a package containing a copy of the informed consent form the parent was required to fill out a semi-structured questionnaire detailing child's age, gender, a stuttering report of the child, age of stuttering onset, and family history of stuttering. Physical meetings were held for parents who needed further clarification. Once the informed consent forms and questionnaires were returned, willing participants signed an assent form in the presence of a witness, after the study had been explained to them. Subsequently, the enrolled students were referred to the licensed SLP for further evaluation. As part of the SLP assessment a self-report of stuttering and speech samples (multiple language samples were obtained from children who used more than one language) were obtained from the students. The speech samples were collected using oral reading tasks (monologue), a conversation (dialogue), and storytelling or picture description tasks (narration). The children were also video-recorded during the speech sample collection to observe secondary behaviours; each session lasted approximately 15 min. Two out of the 25 students did not meet the diagnostic criteria; thus, only 23 were eligible for enrolment.

2.2 | Data Collection

In addition to the demographic data collected and the parent report about child's stuttering history, the OASES-S instrument

was administered to the participants to determine the overall impact of stuttering (Yaruss and Quesal 2008). The OASES-S instrument was administered to the participant to determine the overall impact of stuttering (Yaruss and Quesal 2008). The OASES-S consists of four sections: general information, reactions to stuttering, communication in daily situations, and quality of life (QOL). Each item on the scale is scored on a 5-point scale. The OASES-S questionnaire comprises 60 questions, and a high impact score indicates a severe impact of stuttering. Cronbach's alpha coefficient calculated by the authors (Yaruss and Quesal 2006) of the instrument on all four instrument constructs showed strong internal reliability (α ranged from 0.92 to 0.97). Also, when the impact scores of the four constructs and the total impact scores for each section of the instrument were compared across two test administrations, a high degree of test-retest reliability was derived. Mean differences ranged from 2.1 to 3.1, with a standard error range of 1.98 to 2.65. The items on the OASES-S were carefully explained in either Twi or Ga (two major Ghanaian languages commonly spoken amongst study participants) to children who had difficulty comprehending the questions in English. The impact assessment lasted for about 30 min per study participant. On average, each referred child spent 45 min participating in the assessment. The impact scores and impact ratings were calculated from the responses generated.

2.3 | Data Processing and Statistical Analysis

The Statistical Package for Social Sciences (SPSS) version 25.0 was used for data analysis (Pallant 2020). Frequencies, percentages, and means (age and age of stuttering onset) were calculated. A Pearson Chi-Square was used to determine the association between stuttering prevalence rate and gender, and an odds ratio was used to determine the relative risk of stuttering in males relative to females. The frequencies and means of impact scores of stuttering were calculated and graphically displayed with a bar chart.

3 | Results

A total of 829 children were screened in this study, 46.7% (n = 387) males and 53.3% (n = 442) females. The children were between 7 and 12 years old, with a mean age of 9.45 ± 1.6 years. The study results revealed a final CWS prevalence rate of 2.8% (n = 23). CWS prevalence was calculated by dividing the 23 confirmed stuttering cases by the 829 children screened to establish a point prevalence. The mean age of stuttering onset was 5.02 ± 2.3 years. None of the CWS had received any medical-related help concerning stuttering. The majority (n = 17, 73.9%) of CWS had a relative/relatives with a history of stuttering. A third (n = 7, 43.8%) of these relatives were from the maternal side of their family. Furthermore, 56.5% (n = 13) of the CWS had a history of a family member who had naturally recovered from stuttering. Table 1 shows details of the socio-demographic characteristics.

Table 2 shows the prevalence and ratio of stuttering by gender amongst the children (using the Pearson Chi-Square test at a 95% confidence interval). There was a statistically significant ($p < 0.001$) association in the PR between stuttering and gender. Males had the highest PR (2.41%) compared to females (0.36%). The male-to-female PR ratio of stuttering was 6.69:1 (approximately 7:1).

Figure 1A depicts the children in this study's view of stuttering (general information). In this section, most children (74%, n = 17) had moderate-to-severe challenges in their perception and comprehension of their stammer experience. Figure 1B shows the impact ratings of the children in the domain of their reaction to stuttering. Most children (65.2%, n = 15) had moderate-to-severe difficulties in how they react to their experience of stuttering. Figure 1C shows that the majority of CWS (52.2%, n = 12) were moderately impacted by stuttering when communicating during daily activities. Figure 1D shows the impact stuttering had on the QOL of the CWS. A third of children (39.13%, n = 9) self-reported experiencing moderate-to-severe difficulties concerning their QOL.

The mean of the impact ratings for all four constructs of the OASES-S of the study participants was calculated to generate the overall impact of stuttering on the children. Generally, CWS experience moderate to moderate-severe difficulties, as illustrated in Figure 2.

4 | Discussion

The results from this study suggest a stuttering prevalence rate of 2.77% amongst the participating children. This finding is consistent with the empirical evidence from Yairi and Ambrose's (2013) study that estimated global prevalence rates of stuttering between 0.3% and 5.6%. The current study's prevalence rate also compares to the prevalence rate of 2.06% identified in Mohamadi et al.'s (2008) study of bilingual children aged 6–11 years in Iran.

In contrast to our findings in this current study, lower prevalence rates have been found amongst studies conducted in other countries. For instance, Karbasi et al.'s (2011) study of 7881 primary school children in Iran showed a prevalence of 1.2%, using the direct face-to-face assessment method. Karbasi et al. did not provide an age breakdown of study participants but collectively referred to them as primary school students, so it is unclear if age may have influenced the outcome. Also, in a study (Oyebowale et al. 2004) in Nigeria involving school children with a mean age of 11.5, similar low prevalence rates (0.9%) of stuttering were observed when direct face-to-face assessments were employed. Similar lower rates have been recorded in other studies where teacher referral and investigator assessments were employed (the method used by this current study). In India, amongst 2–5-year-olds, the prevalence rate was 0.46% (Nandhini Devi et al. 2018). In Australia, 0.33% of children from kindergarten through to grade 6 were stuttering (McKinnon et al. 2007), and 1.03% of 7–12-year-olds in Egypt (Abou Ella et al. 2015). The observed differences in prevalence underscore how methodological variations and sample characteristics such as age, language and gender can affect prevalence estimates.

Age is another critical factor, our sample of children aged 7–12 was targeted based on the assumption that by age 7, children who

TABLE 1 | Socio-demographic characteristics of children.

Characteristics	Frequency(*n*)	Per cent (%)
Age (years)		
7–9	432	52.1
10–12	397	47.9
Gender		
Male	387	46.7
Female	442	53.3
Stammer		
Yes	23	2.8
No	806	97.2
[a]First age of stuttering (years)		
2–3	6	27.3
4–5	9	40.9
6–8	6	27.3
9–11	1	4.5
Received medical-related help		
Yes	0	0.0
No	23	100.0
A family member who stutters		
Yes	17	73.9
No	6	26.1
Family member (PWS) who no longer stutters		
Yes	10	43.5
No	13	56.5
[b]Relationship of the family member who stutters but no longer stutters		
Parent	9	50.0
Sibling	5	27.8
Aunt	1	5.6
Uncle	3	16.7
Grandparent	6	33.3
Cousin	3	16.7
The family side of the stutter		
Maternal	7	43.8
Paternal	4	25.0
Both	5	31.2

Note: Mean age (years) of children, 9.42 ±1.6; Mean first age of stuttering, 5.02 ± 2.3.

[a]Responses of children's first age of stuttering do not add up to 23 because a parent could not remember when her child started stuttering.

[b]Responses do not add up to 100% because it is a multiple-choice response. The respondents numbered 10, but each selected multiple family members who are PWS.

continue to stutter beyond this age are more likely to experience persistent stuttering (Yairi and Ambrose 1999; Reilly et al. 2013). Although data on the onset of stuttering, if accurate, suggests that the majority of the participants' age of onset was prior to age 6, a subset (6) of children seemed to have an onset of stuttering between age 6–8. If this is accurate, then there is a possibility that our higher observed prevalence may reflect the inclusion of potential recovery cases. This would need further investigation to explore that possibility.

In addition to differing identification procedures and the age factor, the sociolinguistic context is important to consider. The high stuttering prevalence of 2.77% amongst our sample of school-aged children in Ghana is similar to findings from studies conducted

TABLE 2 | Prevalence and gender ratio of stuttering.

Variable	Stutter					Measure of direction	
	Yes, *n* (%)	No, *n* (%)	PR	Chi-square (χ^2)	*p* value	Contingency coefficient (CC)	*p* value
Gender				15.416	<0.001	0.135	<0.001
Male	20 (87.0%	367 (45.5%)	2.41%				
Female	3 (13.0%)	439 (54.5%)	0.36%				

Note: Odds ratio = 7.98 (95% Confidence Interval, upper 2.351 and lower 27.049), $N = 829$.

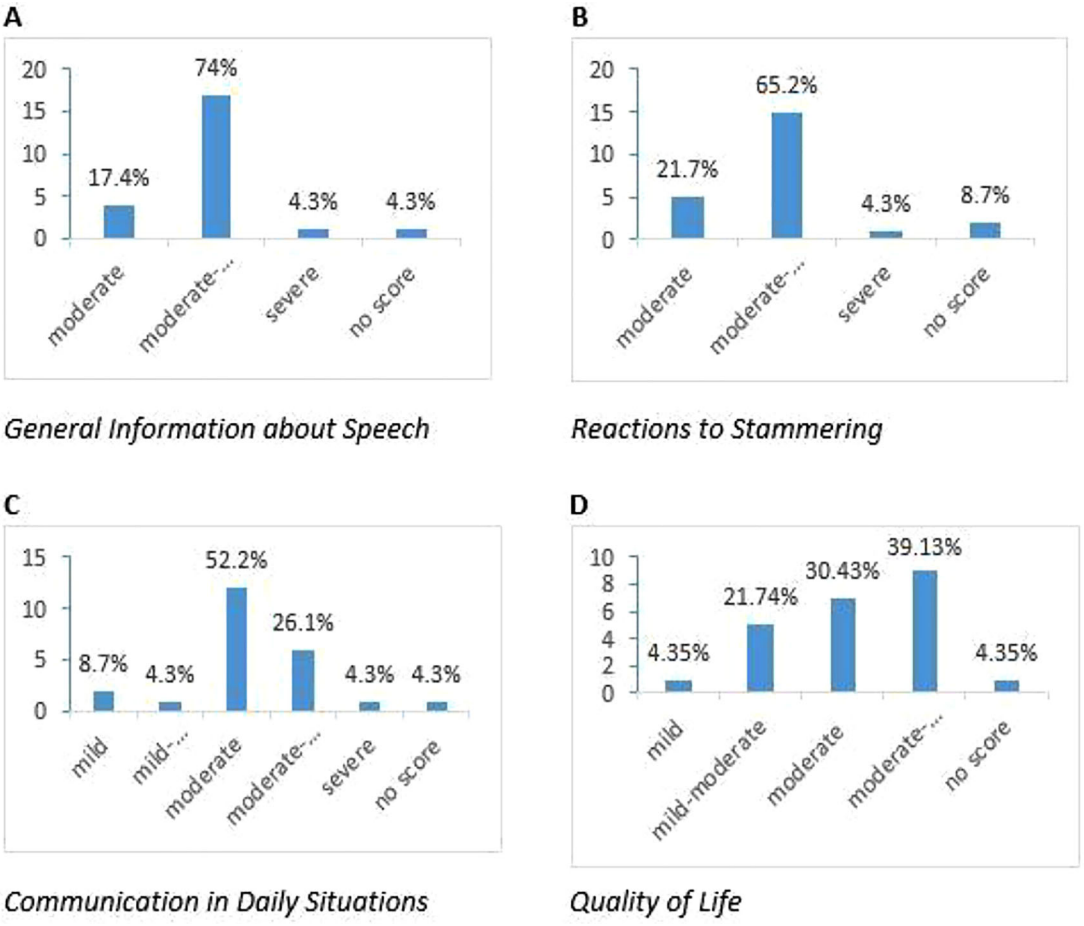

FIGURE 1 | General information about speech, reactions to stuttering, communication in daily situations, and quality of life. No score represents a lack of response from the CWS.

on multilingual children exposed to different language structures (Mohamadi et al. 2008; Varhese et al. 2023). The relationship between bilingualism and stuttering prevalence is inconclusive (Choo and Smith 2020; Van Borsel et al. 2001; Varghese et al. 2023) and underscores the necessity for additional research in Ghana to explore this phenomenon further, particularly amongst study populations such as ours, where multiple languages are spoken. This study did not explore the relationship between stuttering and multilingualism.

Our study suggested a male-to-female stuttering ratio of 7:1 amongst children aged 7–12, comparable to the 7.5:1 suggested by McKinnon et al. (2007) when 10 425 students were studied in Australia. In our study, we observed a stuttering sex ratio that was notably higher compared to the ratios reported in studies conducted in two African countries, namely Egypt and Nigeria, which ranged from 1.32:1 to 3:1 (Abou Ella et al. 2015; Oyebowale et al. 2004). Our findings were also higher compared to the large studies conducted by Craig et al. (2002) and Darmody et al. (2022) in Australia. According to Craig et al., the stuttering male-to-female ratios across ages are approximately 2:1 (2–5 years), 3:1 (6–10 years), 4:1 (11–20 years), with a mean male-to-female ratio of 2.3:1 across all ages. In a more recent study in 2022 by Darmody et al., male-to-female ratios of 2.6:1 (0–5 years), 5.3:1 (6–12 years), 5.6:1 (13–17 years) and 4.1:1 (18 years and above) were suggested. Our findings could be attributed to gender bias in the identification of stuttering by the teachers, with boys being more readily identified and referred due to being more

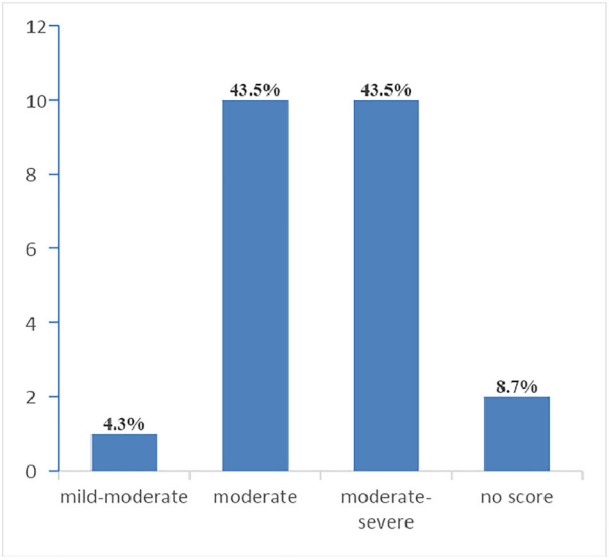

FIGURE 2 | Overall impact rating of stuttering. No score represents a lack of response from the CWS.

verbally active than girls in the classroom (Åhslund and Boström 2018). The influence of genetics on predisposition to stuttering and its intricate interplay with environmental and neurological factors cannot be overlooked as a potential explanation for the varying sex ratio findings. There is substantial evidence in the literature suggesting that genetics and its complex interaction with environmental factors could contribute to differences in stuttering ratios between males and females (Guitar 2014; Yairi and Ambrose 2013).

Findings from our study suggest a positive family history of stuttering of 73.9% and a reported prevalence rate of 30.4% amongst these relatives. The finding of this study provides evidence illustrating a genetic basis for stuttering, as demonstrated in twin studies and familial aggregation. Our findings were at variance with results obtained by Abou Ella et al. (2015), who suggested a 28% positive family history of stuttering in a study in Egypt using parental reports. Also, Choi et al. (2018) suggested a 24% positive family history of stuttering during an extensive interview of caregivers of 25 young children who stutter in the United States. Compared to the cited studies, this study's high positive family history may be attributed to genetics. However, a less than 100% positive family history of stuttering gives credence to the multifactorial cause of stuttering, which suggests a combination of genetics, the environment, and language development (Guitar 2014).

The impact ratings from this study suggest that all children who stutter experience some level of functional impairment due to stuttering. A high percentage of the children (n = 17, 74%) were identified to experience a moderate-to-severe impact in general, followed by some CWS's experiencing a moderate-to-severe impact in how they react to their experience of stuttering (n = 16, 65.2%). In the area of communication in daily situations, most children (n = 12, 52.2%) experienced a moderate impact. Also, a few children (n = 9, 39.1%) demonstrated a moderate-to-severe impact on their QOL. It is evident from our findings that the majority of CWS are negatively impacted by stuttering. Unsurprisingly, most of the CWS expressed little to no knowledge of stuttering because none had attended speech therapy or been part of a stuttering support group. Considering their low level of self-awareness and knowledge of stuttering, negatively reacting to their stammer is not unusual (Rocha et al. 2020). Interestingly, some of the CWS reported feeling comfortable in specific situations, such as speaking with siblings, parents and friends. However, most of the CWS expressed difficulties speaking with teachers and strangers and asking questions in class, which could potentially affect their participation in social and academic activities (Boyce et al. 2022). Furthermore, due to teasing, bullying and the lack of support for the CWS, some of the children expressed fears of the potential challenges ahead of them.

These results are comparable to those of Berchiatti et al. (2020) in Italy and Nandhini Devi et al. (2018) in India, who also found that CWS generally struggle in social situations, notably influenced by people's adverse reactions when they stammer. In response to people's reactions, these researchers found that CWS may avoid speaking situations and limit their participation in academic activities such as reading aloud, asking questions and orally contributing in class. This finding was similar to Sari and Gökdağ's study (2017), which highlighted the impact of stuttering on the social and academic performance of 32 primary school children in Turkey. Caregivers and educators must recognise that some CWS may conceal their condition, but this does not imply that it does not affect them (Iverach et al. 2016). The hush-hush approach to stuttering and disregard for CWS in Ghana can have harmful consequences. Many CWS have minimal knowledge about their condition, which worsens the problem (Rocha et al. 2020). It is imperative to provide these children with the necessary support and resources for stuttering to help improve their QOL.

One of the strengths of this study was the use of teacher referral, children's self-report, parental confirmation and investigator/SLP diagnosis of stuttering to prevent overdiagnosis. However, due to the age range studied and small sample size, the findings cannot be generalised as they may not be representative of children in other parts of Ghana. Future studies should consider expanding the boundaries of the current study population to obtain a nationally representative cohort that can be followed over a longer period to establish age onset, natural recovery and accurate prevalence rates. Also, the current study was quantitative; thus, detailed information about the lived experiences and characteristics of the identified CWS was missed. It is recommended that future studies use a mixed-method approach to explore the overall impact of stuttering amongst school-age children.

5 | Conclusion

The study found that stuttering amongst school-age children is prevalent in a sample of students in Ghana. The findings suggest that males are more likely to stutter than females, particularly if a biological parent, especially of the maternal origin, stutters. Stuttering can have a negative impact on the overall well-being of affected children. Despite the difficulties faced by CWS, there is no formal system to detect stuttering early or offer support to

CWS in Ghana. An efficient screening system that ensures early detection is essential to support affected students.

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Ethics Statement

Ethical approval for this study was obtained from the Ethics Review and Protocol Committee (ERPC) of the School of Biomedical and Allied Health Sciences (SBAHS), [Reference number SBAHS/AA/ASLT/10272690/2021-2022], Date of Approval: [15 September 2022]. The study was implemented in compliance with the ethical principles outlined in the Declaration of Helsinki, and the ethical guidelines of the ERPC and applicable laws and regulations in Ghana.

Consent

Written participant assent and informed consent were obtained from the participants and the participants' guardians prior to participation in the study.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data supporting this study's findings are available upon request from the corresponding author.

Permission to Reproduce Material from Other Sources

Dr. J. Scott Yaruss, co-author of the OASES-S and co-owner of Stuttering Therapy Resources, granted permission to the research team to use the OASES-S tool.

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Supporting Information

Additional supporting information can be found online in the Supporting Information section.

Supporting Appendix I: Screening checklist to identify children who stutter. **Supporting Appendix II**: Questionnaire for data collection from parents/caregivers.