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Stakeholders' perspectives on the inclusion of neurodiverse learners in the mainstream curricula

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Background: Neurodevelopmental disorders (NDDs) encompass conditions affecting emotional, motor and cognitive development, including intellectual disabilities, communication disorders, autism spectrum disorder, attention-deficit/hyperactivity disorder (ADHD), specific learning disorder and tic disorders. Growing public awareness has expanded understanding of these conditions beyond clinical settings, leading to evolving societal perspectives.

Aim: This study explores stakeholder perspectives on including neurodiverse learners in mainstream secondary school curricula, using a neurodiversity framework. In referring to NDDs, the term 'differences' replaces 'disorders' to reflect our understanding of natural neurologial variations.

Setting: This qualitative multiple case study was conducted in Zimbabwe and South Africa, following an interpretive philosophical framework. The study focused on learners with developmental language disorders, a specific type of NDDs.

Methods: The participant group comprised 47 learners, an educational psychologist, a remedial therapist, two speech language therapists, and five teachers. Data collection involved focus group discussions and semi-structured interviews.

Results: Findings revealed that current inclusive policies and practices for supporting neurodiverse learners are based on medical and social frameworks, which fail to account for neurodiverse learners' experiences. The study identified several challenges affecting the curricula's relevance to neurodiverse learners.

Conclusion: The research suggests reimagining inclusive education through a neurodiversity lens. As society progresses towards greater acceptance of neurological differences, educational systems must adapt to create truly inclusive environments catering to all learners' diverse needs and strengths.

Contribution: This research enhances the understanding of neurodiversity within the educational context, highlighting the need to transition from conventional models to a more comprehensive, neurodiversity-informed framework in inclusive education.

Keywords: neurodevelopmental disorders; developmental language disorders; neurodiversity; inclusion education; curriculum; stakeholders.

Introduction

In recent years, extensive media attention on neurodevelopmental disorders (NDDs) such as developmental language disorder (DLD), autism spectrum disorder (ASD), attention-deficit/hyperactivity disorder (ADHD) and dyslexia has elevated public awareness of these issues, reaching audiences beyond the realm of mental health professionals. The enhanced visibility aligns with notable transformations in global dynamics and comprehension within both medical and social contexts, resulting in an intensified emphasis on the personal, medical, educational, occupational and social functioning of individuals diagnosed with NDDs. In educational contexts, knowledge on NDDs has influenced the development of policies and legislation concerning the inclusion of neurodiverse learners. This study seeks to explore the perspectives of stakeholders regarding the integration of neurodiverse learners into the curricula of mainstream secondary

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schools, utilising a neurodiversity framework. It is essential to recognise that in this context, we have intentionally substituted the term 'disorders' with 'differences'. This change embodies the perspective that neurodevelopmental variations should not be viewed as diseases or disorders but rather as distinct neurological differences inherent to human beings.

Our discussion begins with a conceptualisation of NDDs, followed by an exploration of the frameworks historically used to perceive NDDs. We then examine how these frameworks have shaped the inclusion of neurodiverse learners in education systems, particularly in mainstream schools. Inclusive policies and legislation pertaining to neurodiverse learners in Zimbabwe and South Africa are reviewed to provide a comparative perspective. At the heart of our analysis lies the neurodiversity paradigm, which functions as the essential theoretical framework for this study. This approach offers a new perspective on neurological differences, emphasising their value as part of human diversity rather than as deficits to be corrected. In research methodology, our study focused on DLD, a specific type of NDDs. The selection of DLD as a focal point is particularly relevant in mainstream secondary education, where language proficiency increasingly underlies academic achievement across all subject areas. Unlike more visible or frequently diagnosed NDDs, DLD often remains undiagnosed or misunderstood within educational settings, leading to potential gaps in appropriate curricular support. Study findings will be presented, analysed and discussed. This thorough analysis is intended to enhance the ongoing conversation regarding inclusive education and the acknowledgement of neurodiversity within educational environments.

Background

Neurodevelopmental disorders refer to the difficulties encountered in attaining conventional emotional, motor developmental and cognitive milestones. These conditions are commonly connected to the interruption of the finely tuned processes that support brain development (Parenti et al. 2020). The International Classification of Diseases, 11th Revision (ICD-11), defines NDDs as impairments in behaviour and cognition that arise during the developmental stage, leading to significant difficulties in the acquisition and execution of intellectual, linguistic, social or motor skills (Sarma Bardoloi 2021). Neurodevelopmental disorders include a variety of conditions such as intellectual disability (ID), speech, language and communication disorders (SLCD), ASD, ADHD and neurodevelopmental motor disorders, which encompass tic disorders, specific learning disorders and cerebral palsy (Diagnostic and Statistical Manual of Mental Disorders [DSM-5] 2013). These conditions arise when developmental processes are interrupted by various genetic and environmental factors (Khodosevich & Sellgren 2023). Sarma Bardoloi (2021) argues that there exists a considerable overlap of symptoms among these NDDs, which exhibit shared characteristics. Similarly, Parenti et al. (2020) explain the comorbid nature of NDDs. For instance, children with ASD symptoms may also have ADHD or language disorder symptoms.

Frameworks used to conceptualise neurodevelopmental disorders

Various frameworks contribute to shaping societal perceptions of NDDs. The most ancient perspective is rooted in a moral or religious framework. This framework interprets NDDs as a form of punishment from God for specific transgressions. It encompasses not only the sins of the individual but also those committed by their parents or ancestors (Retief & Letšosa 2018). From the mid-1800s onwards, the medical framework steadily emerged as a replacement of the religious framework. According to Retief and Letšosa (2018), NDDs are perceived as medical conditions that originate within the individual. They represent a dysfunction or inadequacy within a bodily system, thus categorising them as inherently abnormal and pathological. Individuals diagnosed with NDDs were recognised primarily through their deficiencies. They are viewed as having significant constraints in intellectual, socio-cultural or behavioural domains, which results in their lagging behind neurotypical individuals during developmental stages. Various terms were used to refer to individuals with NDD, for instance, mentally retarded, mentally handicapped, mentally deficient, feeble-minded, idiots, fools and morons. This framework also posits that NDDs are medical conditions affecting both the body and mind, leading to deficits in individuals and resulting in functional limitations (Dwyer 2022). The ideal intervention involves efforts to convert neurodiverse individuals into able-bodied and neurotypical individuals. However, this framework is highly criticised, as not all NDDs are necessarily health problems.

The social model of disability emerged in the 1970s as a response to the prevailing medical model (Thorneycroft 2024). This framework posits that it is society that creates barriers for individuals with impairments. Pioneering scholars of this perspective, such as Oliver (1990, 1996) and Barnes (1991, 1999), have delineated a clear distinction between the concepts of impairment and disability (Anastasiou & Kauffman 2013). Impairment refers to the loss or malfunction of a particular bodily function or component. Conversely, disability is characterised by the societal disadvantages, discrimination and exclusion experienced by individuals with impairments (Anastasiou & Kauffman 2013). Other frameworks that are closely related to this approach have been developed. These are: the identity framework that view NDDs as an identity. It aligns with the social model's perspective that the experiences of NDDs are shaped by social factors; however, it distinguishes itself by asserting that NDD can be embraced as a positive identity (Retief & Letšosa 2018). The human rights framework acknowledges that NDDs are fundamentally socially constructed, asserting impairments

should not be justified in denying or limiting human rights (Degener 2024). According to Hopson (2019), the cultural perspective examines the concept of NDDs through the lens of group identity, distinguishing it from other groups that do not identify with these characteristics. The charity framework perceives individuals with NDDs as victims requiring specialised services and institutions because of their differences. This framework characterises these individuals as vulnerable, despondent and reliant on others for support (Retief & Letšosa 2018). The economic framework sees NDD as a challenge to productivity. It interprets neurodiverse individuals as those who are unable to fulfil socially valued roles, particularly in the context of employment. It is normative in nature, positing that the ideal state is the capacity to engage in work, thereby categorising the inability to work as a deviation from this norm (Grue 2023). This framework emphasises the necessity for individuals to acknowledge that every human being encounters certain limitations in their daily lives, and these limitations can manifest in different degrees (Retief & Letšosa 2018).

Inclusive education policies and systems for supporting neurodiverse learners in mainstream schools

More recently, inclusive education represents a global philosophy and practice that has been embraced and adapted to fit the unique cultural and contextual circumstances of various communities (Nel, Nel & Hugo 2017). Curricula refer to the body of knowledge and skills that learners are expected to acquire, which includes the learning standards or objectives they are required to fulfil, the instructional content and lessons provided by teachers and the assignments and projects assigned to the learners. Moreover, it encompasses the textbooks, materials, presentations and readings utilised throughout the course, along with the assessments and various methods used to measure learning (Gasva & Phiri 2020). Hewett et al. (2020) assert that inclusive learning and teaching encompass the intentional design and implementation of pedagogical approaches, curricula and assessments aimed at making learning significant, pertinent and accessible for all learners. Ensuring that curricula are accessible to all learners necessitates the implementation of processes that include modifying, altering, adapting, expanding and diversifying teaching methodologies, strategies, assessment techniques and content (Engelbrecht & Swanepoel n.d.).

The integration of neurodiverse learners within educational settings has been influenced by the frameworks previously discussed. Consequently, the education of learners with varying needs has experienced considerable transformation. In the 20th century, governments in developed nations initially established a model of special education that operated alongside mainstream schooling, primarily informed by a medical perspective (Engelbrecht & Swanepoel n.d.). Concerns about segregated special education appeared gradually. The concept of special education has faced condemnation for being an element of a discriminatory social structure that excludes neurodiverse learners from active participation in societal life. Thus, there was a shift towards a series of social frameworks. Contemporary classrooms are designed to support a diverse range of learners, encompassing variations in ability, age, race, background and other distinguishing characteristics. The core principle of inclusive education revolves around the commitment to providing all learners with the opportunity to pursue their education in a shared environment, thereby promoting their social and academic growth (Hove & Phasha 2024).

Education systems globally are influenced by international declarations, including the United Nations Educational, Scientific and Cultural Organization's (UNESCO's) Salamanca Statement and its accompanying framework for action regarding special needs education (UNESCO & Ministry of Education and Science 1994). Numerous international charters, conventions and co-operation agreements pertaining to inclusive education encompass the United Nations International Children's Emergency Fund (UNICEF) Convention on the Rights of the Child (1989), the World Declaration on Education for All (1990), the Standard Rules on Equalization of Opportunities for Persons with Disabilities (1993), the Millennium Development Goals aimed at poverty alleviation and development (2000), the Education for All flagship initiative addressing education and disability (2001), the European Agency for Special Needs and Inclusive Education (2018) and the United Nations Convention (2016) (Engelbrecht & Green 2007b; Leifler, Borg & Bölte 2024). Several high- and middle-income states have established inclusive educational policies that seek to lessen the separation of neurodiverse learners in educational settings (Leifler et al. 2024). Zimbabwe and South Africa are signatories of several inclusive education-related declarations, and this resulted in the formulation of respective domestic policies on inclusion. This section discusses legislation and policies on inclusion from two countries.

Zimbabwe lacks specific laws or policies that address the concept of inclusive education (Chataika & Hlatywayo 2022). However, numerous governmental policies are in place that support the tenets of inclusive education. Key legislative frameworks include the Zimbabwe Education Act of 1996, the Disabled Persons Act of 1996 and various Ministry of Education circulars. Notably, the Education Secretary's Policy Circular P36 of 1990, recently updated to P36 of 2023, provides specific guidance on inclusive education. The Education Act stipulates that every child, regardless of race, religion, gender, creed or disability, has the right to receive basic or primary education, which encompasses up to Grade 7 (Chitiyo & Dzenga 2021; Mutepfa, Mpofu & Chataika 2007). The Education Secretary's Policy Circular P36 of 2023 outlines the standardised procedures for developing and implementing support systems that ensure inclusive access and full participation of learners with diverse needs in primary and secondary education.

The educational landscape in Zimbabwe features a range of curricula and instructional options designed to promote the inclusion of neurodiverse learners. At present, the availability of places in special schools is declining, as a growing number of learners with special educational needs are being integrated into mainstream educational environments (UNESCO 2022). There are four approaches to integrating learners with special needs into mainstream educational environments: locational inclusion, inclusion with partial withdrawal from traditional classroom settings, inclusion enhanced by clinical remedial instruction and unplanned or de facto inclusion (Mutepfa et al 2007). These options were developed after Zimbabwe gained her independence in 1980. A formal policy was adopted by the Zimbabwean education authorities with the support of the Swedish International Development Agency (SIDA) to educate learners with special needs in mainstream schools, facilitating specialised educational instruction and resource room services for those who have experienced substantial barriers to their learning process. Thus, depending on the severity of the condition, a learner would attend general education classrooms for a proportion of the school day (Engelbrecht & Green 2007a). Neurodiverse learners receive support under the clinical remedial instruction. They attend the general education classroom for about 70% of the school day and receive specialist teacher help in a resource room for 30% of the school day (Engelbrecht & Green 2007a). Thus, special units and resource rooms are used to support learners with specific behavioural, physiological, neurological or psychological problems (UNESCO 2022). Research and experience have shown that the first three forms of inclusion are widely used in primary schools; however, very few secondary schools have such facilities.

The Ministry of Primary and Secondary Education (MoPSE) in Zimbabwe introduced a revised inclusive curriculum between 2015 and 2022, aiming to improve teaching and learning methodologies. This initiative was undertaken in response to the acknowledgement that the previous education system fell short in cultivating citizens equipped with essential civic competencies (MoPSE 2016). The most generic form of inclusive education in secondary schools is referred to as unplanned or de facto inclusion (Chataika & Hlatywayo 2022). In this approach, neurodiverse learners are assimilated into conventional educational institutions, allowing them to engage with the entire national curricula. Such learners are usually placed in schools by their parents or guardians, often lacking any formal records or diagnoses related to their specific conditions. Their inclusion occurs by default, stemming from a lack of available options rather than a deliberate strategy (Chataika & Hlatywayo 2022). Unfortunately, this form of inclusion tends to inadequately promote the inclusion of neurodiverse learners, as many schools do not possess the necessary staff and resources to effectively address diverse and significant learning needs (Chataika & Hlatywayo 2022). Curricula are not accessible to many learners because of over-enrolment in schools, which puts a strain on the resources, including individualisation of instruction and teaching-learning aids. The exact number of learners with conditions such as NDDs is unknown, as the health and education systems lack a reliable system of documenting the incidence and prevalence of these conditions (Engelbrecht & Green 2007a). Other factors impeding the implementation of inclusive education policies are lack of knowledge and information on conditions affecting the learners, lack of financial, material and workforce resources, limited awareness from families and community, inaccessible curricula and poor school infrastructure (Engelbrecht & Green 2007a; Lemeyu & Chikutuma 2024).

In South Africa, policies have been developed to support inclusive education, such as the White Paper 6 (EWP6) on special needs education established in 2001, as well as the 2014 revision of the policy on screening, identification, assessment and support (SIAS). Nel et al. (2017) posit that the advancement of EWP6, along with special needs education and the establishment of an inclusive education and training framework, demonstrates the South African government's dedication to fostering an educational environment that allows all learners to achieve their full potential. In 2012, the Department of Basic Education (DBE) established the curriculum and assessment policy statement (CAPS), which was amended in 2020, replacing the earlier outcomes-based education (OBE) framework (Ngobeni, Chibambo & Divala 2023). The introduction of CAPS emphasised a substantial focus on the content of the curricula, pedagogical approaches to teaching and effective learning strategies. This curriculum is designed to enhance learners' knowledge and skills while providing teachers with a structured framework for instruction and assessment, organised by grade level and subject area (Nel et al. 2017).

Nevertheless, teachers have expressed concerns regarding CAPS, citing its rigidity in assisting neurodiverse learners within mainstream settings (Tebele & Chaka 2024). Mpu and Adu (2021) also note that the SIAS policy is too theoretical and complex; consequently, teachers have cultivated unfavourable perceptions regarding the adoption of inclusive education practices. This has been supported by Ntseto et al. (2021). Hove and Phasha (2024) report overcrowded classrooms, time constraints and lack of parental involvement as factors that limit support of neurodiverse learners in mainstream schools. Mainstream teachers also lack an in-depth understanding of neurodevelopmental conditions; hence, it becomes difficult to support neurodiverse learners (Yoro, Fourie & Van der Merwe 2020).

The enactment of inclusion legislation and policies has been accompanied by an upward trend in the identification of neurodiverse learners, with a considerable proportion of these learners integrated into mainstream schools (Leifler et al. 2024). Nevertheless, despite existing legislation and policies, the full educational inclusion of neurodiverse

learners within mainstream schools remains an elusive goal in high- and middle-income nations (Leifler et al. 2024). Studies from Zimbabwe and South Africa have underscored the integration of neurodiverse learners into mainstream schools; yet, they face considerable challenges that impede their inclusion and the necessary support systems. Neurodiverse learners in mainstream schools often face more challenges compared to neurotypical peers. This is exacerbated by the negative attitudes and actions of people around them (Alcorn et al. 2024). They often develop strategies in trying to mask or camouflage their challenges. For instance, the National Behaviour Support Service (NBSS) (2014) emphasised that many learners with DLD might possess an unrecognised or concealed challenge in language acquisition, as they frequently adopt compensatory mechanisms. These strategies may include consistently agreeing or disagreeing with their conversational partner, choosing to remain silent, responding with memorised phrases, being aggressive or being physically absent. Such mechanisms disrupt the learning process and serve not only as a marker of poor academic achievement but also as a sign of reduced social and life success (Demır & Akman Karabeyoglu 2015).

It is crucial to point out that studies and practices related to the inclusion of neurodiverse learners in Zimbabwe and South Africa have been developed within the contexts of medical and social frameworks. Educational support and therapy in mainstream settings are meant to tame them to behave and learn 'normally'. The learner is supposed to 'conform' to the requirements and expectations of the mainstream curricula with limited room for support. Intelligence is measured against set educational standards for typical developing learners. It must be noted that this process of 'normalisation' and conforming to set standards can be frustrating to neurodiverse learners, particularly when they may not have the capacity or desire to conform to the standards of typically developing (Dwyer 2022). Research by Cage and Troxell-Whitman (2019) has shown that the attempts made by neurodiverse individuals to fit into neurotypical norms are associated with various negative outcomes, including stress, depression, exhaustion, burnout, anxiety, a decline in well-being and an elevated risk of suicidality. Rutherford and Johnston (2022) argue that being neurodiverse in a neurotypical environment can result in challenges manifesting in two distinct forms. One form involves direct difficulties encountered in daily activities, while the other arises indirectly from the pressures of masking and camouflaging behaviours aimed at achieving social acceptance. Thus, the two frameworks view NDDs from the view of observers rather than the neurodiverse individual experiences. In this context, we analyse the viewpoints of stakeholders regarding the integration of neurodiverse learners into mainstream secondary school curricula, employing a neurodiversity framework. This approach is transforming our comprehension, utilisation of language, interpretation, research methodologies and support systems for neurodiverse learners.

While NDDs encompass a broad spectrum of conditions, this study specifically focuses on DLD as a critical area within NDDs. Developmental language disorder is recognised as a NDD that is part of a larger classification of SLCDs, which includes a diverse array of conditions that influence speech, language and communication skills (Bishop et al. 2016). Developmental language disorder is used to describe language disorders that do not have a known distinguishing condition. The designation 'developmental' indicates that the disorder manifests during the developmental stages, as opposed to being connected to a specific biomedical origin (Bishop et al. 2016). It emerges in early childhood and frequently persists into adulthood (McGregor 2020). DLD is characterised by deficits in 'language comprehension and/or production in both the native [L1] language and the second language [L2]' (Prezas & Jo 2017).

The selection of DLD was based on the significant language learning challenges experienced by learners with this condition, which impede their ability to acquire and use language at a level comparable to their peers with typical language development. According to McGregor (2020), learners with DLD experience notable difficulties in the processes of learning, understanding and employing spoken language. Yet, both Zimbabwe and South Africa are recognised for their multilingual landscapes, which extend to their classrooms. Consequently, it is imperative that these learners are provided with inclusive educational environments that address their diverse needs. The selection of DLD was also influenced by the lack of scholarly work that investigates the importance of school curricula for learners with DLD from a neurodiversity viewpoint (Hobson, Toseeb & Gibson 2024).

The following research question serves as the foundation for this article: *To what extent does the secondary school curricula include learners with DLD?*

Theoretical framework

The traits and manifestations of the human brain differ among individuals. These variations may include anatomical features, such as the structure or size of specific brain regions; functional aspects, like the activity levels of brain systems or a combination of both anatomical and functional elements, such as the connectivity patterns within and between different brain systems (Goldberg 2023). The interplay of brain structure and function is fundamental to human perception and behaviour, leading to a wide array of cognitive expressions and communication styles (Goldberg 2023).

Neurodiversity describes the natural differences in brain types, like the concept of biological diversity within developmental frameworks (Stenning & Rosqvist 2021). Neurodiversity is a different approach to viewing individuals with NDDs. The paradigm suggests that there are no NDDs but rather several normalities. The theory posits that

neurodevelopmental variations categorised as 'disorders' and 'impairments' align with all classifications that represent the fundamental structure of reality as 'natural kinds' (Stenning & Rosqvist 2021).

Judy Singer, a sociology researcher, coined the term neurodiversity in 1999, reflecting the rights activism movement that was prominent during the 1990s (Goldberg 2023). Her research holds considerable academic significance, marking her as the first sociology scholar associated with the neurodiversity movement. However, it is worth mentioning that although various academics attribute the origin and theoretical framework of the concept to Judy Singer, Botha et al. (2024) argue that Singer was not the first to theorise the concept. The idea of neurodiversity was collectively formulated by members of the autism community in conjunction with other neurodiverse groups (Botha et al. 2024). Botha et al. (2024) trace the origins of the concept from 1992, where members of the Autism Network International, such as Jim Sinclair, Ed Roberts, Judy Heumann and Anita Cameroon, laid much of the groundwork for the concept. Martijn Dekker, the founder of independent living on the Autistic Spectrum (InLv), also provided evidence that the neurodiversity concept was already under discussion before Judy Singer's 1999 publication. During a discussion in 1996 that included multiple participants, Tony Langdon highlighted the concept of neurological diversity among individuals. This notion received support from Phil Schwarz. Consequently, the theoretical framework that evolved throughout the 1990s and 2000s was collaboratively shaped through various discussions and locations, rather than emerging from a singular, cohesive body of literature (Botha et al. 2024). The conversation surrounding neurodiversity originated as a grassroots initiative fuelled by the individual experiences of individuals, subsequently influencing the scientific community and prompting a re-evaluation of human diversity (Goldberg 2023).

Clarifying essential terminology contributes to the comprehension of the paradigm's principles. The concept of neurodiversity is formed from the prefix 'neuro', indicating the nervous system and the term 'diversity', which denotes a variety of differences (Goldberg 2023). Neurodiversity also distinguishes between two types of individuals; a neurotypical individual is one whose cognitive development and brain function align with the standard range, whereas a neurodiverse individual is characterised by cognitive development and brain function that differ from this standard range.

The neurodiversity framework advocates for greater involvement of neurodiverse people in research priorities and service decisions while encouraging professionals to adopt neurodiversity-affirming language and practices. Rutherford and Johnston (2022) emphasise that diagnostic assessment considers both physical and psychosocial environments, including how school, home, community spaces and others' behaviours affect neurodiverse individuals.

Any social justice movement has criticism. The neurodiversity paradigm has been criticised for its overemphasis on autism research and practice (Den Houting 2019; Hobson et al. 2024). While the autistic movement has been at the forefront of the movement, it is crucial to focus on other neurodevelopmental conditions. The neurodiversity paradigm has also been criticised by Nair, Farah and Boveda (2024) for the over-representation of whiteness in the neurodiversity movement. They argue that global northern hegemony in neurodiversity scholarship has marginalised other global epistemologies. The current scholarship on neurodiversity has an over-representation of whiteness that erases the intersectional experiences of Black and brown individuals (Nair et al. 2024). This study explores these shortcomings by applying a neurodiversity perspective to assess the applicability of the conventional curricula for learners with DLD within the Southern African setting.

Research methods and design

Setting

The study was conducted in mainstream secondary schools across two geographical locations: two schools from Zimbabwe's Khami District within the Bulawayo Metropolitan province and three schools from the Johannesburg Central District in Gauteng, South Africa. The selection of these mainstream schools was primarily guided by geographical accessibility and the researchers' familiarity with the areas, which facilitated sustained engagement throughout the research period. As regular secondary schools serving diverse socioeconomic communities, these sites aligned with the study's aim to understand how mainstream educational environments naturally accommodate neurodevelopmental differences, particularly DLD. Notably, schools were not selected based on pre-existing identification of learners with DLD or established support structures but rather for their potential to provide insights into how typical mainstream settings encounter and respond to learners with language differences. This selection strategy enabled the research to capture authentic experiences and challenges in implementing inclusive education within regular secondary school environments.

Research paradigm

Qualitative research is used to discover trends in the thinking and opinions of individuals on a phenomenon under study (Quintão, Andrade & Almeida 2020). This study adopts an interpretivist paradigm, which holds that social reality is not singular or objective but is shaped by human experiences and social contexts (Pervin & Mokhtar 2022). The interpretivist approach is particularly appropriate for this research as it enables a comprehensive understanding of individuals' perceptions, ideas, thoughts and the meanings they attribute to their experiences within their specific contexts. Through this lens, the study examines stakeholder views on the

relevance of school curricula for learners with DLDs across two different educational contexts, allowing for rich, contextual insights into how these curricula are experienced and understood by various stakeholders.

Research design

A multiple case study was chosen as the research design, enabling systematic examination of two or more distinct cases. This qualitative research method allowed for a comprehensive investigation across different contexts (Adams et al. 2022). The approach adopted allows for a thorough comprehension of a phenomenon while maintaining the distinctiveness of individual case studies. The two cases chosen for analysis were in Zimbabwe (Case 1) and South Africa (Case 2). Utilising a multiple case study methodology provided an opportunity to explore various stakeholders' viewpoints concerning the importance of secondary school curricula for learners with DLDs. Additionally, this design supported the systematic replication of data collection across diverse settings, thereby enriching the understanding of the issue under investigation. It also promoted diversity and facilitated a comparative analysis of perspectives on the relevance of school curricula for learners with DLDs in two distinct educational environments.

Population and sample

The selection of participants was pivotal in tackling the research question. An optimal participant should have the necessary knowledge, information and experience pertinent to the topic and be able to articulate that expertise. As a result, the study incorporated professionals who assist learners with DLDs, including five teachers, two speech-language therapists, an educational psychologist and a remedial therapist. These individuals were deliberately selected as 'key informants' for the research. It is also important to highlight that the selection of 47 learners from the two settings was based on the teachers' understanding of DLD. These learners did not have a diagnosis or document specifying their condition. The study acknowledges the complexity of identifying DLD in educational contexts, particularly in mainstream school environments where formal diagnostic resources may be limited. Therefore, the research relies on the experiential knowledge of educational practitioners, particularly language teachers, speech-language therapists and remedial specialists, who work directly with learners exhibiting language-based learning challenges. The distribution of the sample size for Case 1 and Case 2 is detailed in Table 1.

Data generation techniques

The study was carried out in two distinct cases in 2019. In Case 1, data collection commenced on 21 March and continued until 12 July. In Case 2, the data collection period started on 15 April and concluded on 20 August. The following strategies were used as data generation techniques:

TABLE 1: The distribution of the sample size for Case 1 and Case 2.

Case 1	No. for Case 1	Case 2	No. for Case 2
Teacher A	1	Teacher C	1
Teacher B	1	Teacher D	1
Learners A	10	Teacher E	1
Learners B	15	Learners C	9
Speech-language therapist	1	Learners D	8
Remedial therapist	1	Learners E	5
-	-	Educational psychologist	1
-	-	Speech-language therapist	4
Total	**29**	**-**	**27**

Note: Case 1: Zimbabwe, Case 2: South Africa.
No., numbers.

Focus group discussion

Focus group discussions (FGDs) represent a potent qualitative data collection approach that facilitates the gathering of shared opinions and the development of comprehensive insights through the interaction of group members (Nyumba et al. 2018). This study conducted five FGDs, one at each participating school. The distinctive feature of FGDs is their ability to produce data and insights that would otherwise remain unattainable to the researcher without the engagement of the learners involved in the discussions (Khatun 2020). Focus group discussions were instrumental in collecting data efficiently and generating comprehensive group insights. However, challenges such as the management of discussions that deviated from the main topic and the necessity of ensuring that all learners participated equally were experienced. To address these challenges, the researcher employed careful moderation techniques, including gentle redirection and ensuring equal participation opportunities. Learners who struggled to express their ideas were given the flexibility to communicate in their preferred language to ensure their comfort and full participation.

Semi-structured interviews

Semi-structured interviews were conducted with eight adult participants, comprising five teachers, two speech-language therapists and one remedial therapist, allowing for in-depth exploration of individual perspectives while maintaining flexibility in the discussion flow (Ruslin et al. 2022). This method was chosen for its ability to balance structure with openness, enabling participants to share their professional experiences in supporting learners with DLD. Each interview lasted 45 min – 60 min and was primarily audio-recorded although written notes were taken for participants who preferred not to be recorded. The semi-structured interviews promoted probing of unexpected themes and detailed examples although it required careful time management to ensure comprehensive coverage of all topics. To enhance reliability, member checking was employed, where interview transcripts were shared with participants for verification and clarification.

Quality criteria

To enhance the credibility of the research findings, the engagement with participants was extended, and multiple

data sources were utilised for triangulation. Additionally, member checking was conducted to bolster the trustworthiness of the study. The primary aim of implementing member checks was to mitigate researcher bias during the analysis and interpretation of the results (Anney 2014). Participants were provided with the transcribed data for their validation. In addition, triangulation of data sources was implemented. The diverse methods of data collection contributed to the credibility and dependability of the assertions made. Moreover, space triangulation was applied to mitigate the constraints of studies limited to a specific geographic area or subculture by including research conducted in Zimbabwe and South Africa.

Data analysis procedures

Thematic analysis was employed to systematically examine the collected data. The analysis began with a thorough familiarisation phase during which all audio recordings were played multiple times and field notes were carefully reviewed. Subsequently, all interview audio recordings were transcribed verbatim. To guarantee the security of the data, all materials were meticulously organised, classified and stored on a computer secured with a password. The coding was performed using ATLAS.ti qualitative data analysis software, in accordance with established thematic analysis principles. An iterative analysis process facilitated the emergence of key themes and subthemes from the data. The researchers then examined and mapped the interrelationships between these themes and sub-themes to develop a comprehensive understanding of the findings. Analysis of the data revealed three primary themes: (1) conceptualisation of DLD; (2) support services available for learners with DLD and (3) impact of second language (L2) as the medium of instruction (MoI) on learners with DLD. This article specifically focuses on the sub-theme of the second theme, examining the relevance of curricula to learners with DLD within the context of available support services.

Delimiters of the study

This study was specifically confined to learners with DLDs who are enrolled in mainstream secondary schools. It deliberately excluded learners with other NDDs, as well as those with DLDs attending primary schools or special education settings. This targeted methodology facilitated a comprehensive analysis of the specified demographic within the context of mainstream secondary education.

Ethical considerations

Prior to conducting fieldwork, ethical clearance was obtained from the University of Pretoria through its ethics committee (ethics clearance no.: EP 18/10/01). This was submitted to educational authorities to support the request for research permissions in Zimbabwe (Case 1) and South Africa (Case 2).

In Case 1, the Provincial Office of the MoPSE of Zimbabwe, along with the Khami district schools inspector, granted permission to conduct research in the Bulawayo Metropolitan province. The approval letters were then presented to the selected schools in the Bulawayo Khami district. In Case 2, in addition to the ethics approval from the university, permission was electronically requested and obtained from the Gauteng province. The first author visited the Johannesburg central district offices to acquire specific permission for conducting research in that area. Consent forms were provided to participants aged 18 and older to indicate their willingness to participate in the study. Consent was acquired from the parents of 47 learners who were under the age of 18 years to include them in the study. Additionally, consent letters were provided for the learners to sign. Prior to the commencement of the FGDs, the first author took time to clarify the objectives and significance of the research to all participants. Prior to data collection, participants were informed of their rights to confidentiality and voluntary participation. They were assured that their identities would remain anonymous in all research outputs and that they could withdraw from the study at any time without consequences.

Results of the study

In this section, the results of the study from Case 1: Zimbabwe and Case 2: South Africa are presented and examined. A summary of the demographic characteristics of the adult participants is included.

Case 1: Zimbabwe

This section outlines the research findings derived from Zimbabwe, which were obtained through semi-structured interviews with four key stakeholders. These include two professionals working in office settings, a speech-language therapist affiliated with the MoPSE in Matabeleland North and a remedial therapist with 28 years of experience who runs a private educational assessment centre supporting neurodiverse learners such as DLD. Furthermore, interviews were also held with two English language teachers. The sentiments expressed by each professional are captured and presented under the following identifiers: P - Participant, SI - Semi-structured interviews, FGD - Focus Group Discussion, L- learner, ln- Line(s).

Participants were requested to provide their insights on the importance of school curricula for learners with DLD. The speech-language therapist pointed out that the curricula ensure equal opportunities for all learners. He also recommended that school leaders report any suspicions of a learner needing special assistance within a 24-h period. In contrast, the remedial therapist argued that the curricula do not adequately support learners with DLD. He added that teachers are struggling to implement the newly established curricula effectively:

> 'Indeed, it does, but the challenge lies in the significant resistance from teachers. They have been trained primarily to prepare learners for examinations, and now they are required to focus on nurturing the learner's strengths and

implementing continuous assessments. However, they have not received training in continuous assessment.' (P02/SI/ln51-55)

In addition, he remarked that:

'This teacher has been teaching learners for examinations for 20 years and today, a shift in focus is proposed. The emphasis should now be placed on identifying the strengths of each learner and implementing ongoing assessments, accompanied by substantial documentation. While the curriculum itself is fundamentally sound, it does provide some support for learners with DLD, albeit to a limited extent.' (P02/SI/ln54-56)

The remedial therapist raises a critical issue regarding the challenges faced by teachers in implementing the curricula. He argued that teachers were not fully prepared enough to accommodate the diverse needs of all learners. Similarly, Teacher A argued that the curricula neglect learners with DLD, as it does not give teachers enough time to assist learners with challenges. She added that the teacher-learner ratio was making their work so difficult to cater to each learner's individual needs.

Teacher B highlights how the current system's limited pathways particularly impact learners with DLD, who may struggle with traditional academic assessments because of linguistic challenges rather than intellectual capabilities. Limited educational routes have inadvertently created additional barriers for DLD learners, who might have benefitted from alternative pathways that could accommodate their language differences while developing their other strengths and capabilities. According to her:

'During colonial rule, the education system had multiple screening points that directed learners to different paths based on their abilities. After Zimbabwe Junior Certificate, learners would take exams at Form 2, with those who did not pass redirected to alternative training. Similar screenings occurred at Form 4, with a structured system that created three distinct tracks: D1 learners proceeded to advanced levels, D2 learners went to teacher's or nursing colleges, and D3 learners were guided towards vocational or hands-on jobs. While the system might be viewed as discriminative, it ensured that all learners who were not academically inclined still had structured opportunities for employment and training. In contrast, the current system has fewer alternative pathways, with only the ordinary level as a primary screening point, leaving many learners, particularly those with DLD, without clear educational or vocational alternatives.' (P04/SI/ln87-97)

Teachers reported varying views on the curricula's effectiveness for learners with DLD, citing challenges like large class sizes and time constraints. Teacher B favoured the colonial-era curriculum, believing it better addressed diverse learning abilities than the current one.

In Zimbabwe, schools use unplanned or de facto inclusion, where neurodiverse learners learn alongside their peers using the standard curriculum in regular classrooms (Chataika & Hlatywayo 2022; Ncube & Hlatshwayo 2014). However, this 'one size fits all' approach fails to meet all learners' needs. While one teacher advocated for the colonial-era curriculum, praising its accommodation of diverse learners through its tracking system, scholars like Zvobgo (1981) have criticised this colonial approach for its discriminatory nature, despite its attention to different ability levels.

In FGDs, learners identified several key challenges in their learning environment. They reported receiving insufficient teacher support and experiencing stigmatisation from both teachers and peers. Learners also described how teachers would sometimes make unfavourable comparisons to other learners and show impatience when they struggled with concepts. The 'hot seating' schedule limited their study time, and they found it difficult to get additional help after class, even when they sought it. Some learners also felt that certain teachers were unapproachable, making it harder to ask for assistance when needed. One learner from School B specifically emphasised the lack of patience some teachers showed when learners had difficulty grasping concepts. The following statements were captured during the discussion:

'*Eye vele bathi asizwisisi compared to amanye ama class* [They always say we unlike other good classes].' (L15/FGD/ln23)

'*Ah ama teacher ayasitshingela nxa singabuza imibuzo bayabe belama stress abo* [Ah, sometimes teachers shout at us when we ask questions; they are always stressed].' (L10/FGD/ln20-21)

'Some teachers will be having stresses from their homes, and then they come here and express their anger to us. So, our teachers need to be counselled or something.' (L12/FGD/ln23-24)

'We just have bad luck in everything.' (L17/FGD/ln87)

'Ahh, whenever I raise my hand to give an answer during the lesson, others laugh at me.' (L29/FGD/ln45)

Educating neurodiverse learners necessitates teachers who exhibit a constructive and supportive attitude towards their learners (Mavuso 2022). This attribute is critical to guard against low self-esteem experienced by most neurodiverse learners. Krystal (2015) notes that learners with DLD frequently struggle with low self-esteem and a lack of confidence in their educational endeavours. Such feelings of inadequacy are primarily influenced by the way they are treated in academic settings and the negative labels that are associated with their condition. The challenge with labelling is that it is fraught with psychological and ideological uncertainties that permeate the well-intentioned efforts of providing education to neurodiverse learners (Arishi, Boyle & Lauchlan 2017). The statement 'we have bad luck in everything' reflects the learners' acknowledgement of their distinctiveness and perceived shortcomings, which contribute to their belief that the system fails to support them adequately. This realisation helps to explain why learners with DLD often resort to compensatory mechanisms to hide their difficulties. As a result, they are more susceptible to social

and emotional issues when compared to their peers who develop typically (Forrest et al. 2018).

Case 2: South Africa

This section details and evaluates the findings from a study carried out in South Africa. Data collection involved semi-structured interviews with a diverse group of participants, including a speech-language therapist working for the DBE at a district special school, an educational psychologist practising at a university and in private settings, as well as three teachers from distinct educational institutions. Additionally, FGDs were organised with learners from three separate schools. Consistent with Case 1, the article specifically addresses one sub-theme: the relevance of the school curricula in supporting learners with DLD.

Adult participants shared their perspectives on the effectiveness of the curricula for learners with DLD. The speech-language therapist contended that the curricula offered limited support for such learners. She elaborated that the Ministry of Basic Education advocates for the referral of neurodiverse learners, to specialists for further assistance. Nonetheless, she noted that she receives referrals mostly from primary schools. This reflects the limited use of referal system in seconday school settings.

An educational psychologist emphasised that the current curricula fail to support learners with DLD. She contended that if the curricula continue to assume that all learners possess academic aptitude, it will not effectively cater to those with DLD, who typically face challenges in reading and writing:

> 'I do not think it does, they still focus on the print, until we move away from the print. If we still expect all children to read and write, we cannot accommodate children with such disabilities. These children, neh, often compensate with non-verbal vocational subjects.' (P31/SI/ln31-33)

Teacher C noted that while the curricula provide limited accommodation overall, certain subjects like creative arts offer opportunities for learners with different strengths. He explained that through drama, music and art activities, learners with DLD and others who may struggle academically can discover and develop their non-academic talents.

Teacher D indicated that the curricula do not cater to the diverse needs of learners. She asserted that it has not been developed with the intention of supporting learners with diverse abilities:

> 'It does not. You know the way it is designed; you know I have had a conversation about the curriculum recently with a friend … it does not cater for learners with such conditions, it caters for middle to average. I mean to above intelligent.' (P33/SI/ln46-48)

Teacher E echoed these views, noting that while the secondary school curricula are comprehensive and detailed, they offer minimal accommodation for neurodiverse learners. She emphasised that time constraints and lack of parental support further limit their ability to help these learners:

> 'It does to a lesser extent. The curriculum is quite detailed really; however, less is being done to assist such learners. We [*are*] operating on a limited-time basis. It does not accommodate DLD. Parents do not come when called to discuss such issues with their parents. They think their children will be a laughingstock when sent to a special school.' (P34/SI/ln16-19)

Teacher E pointed out that neurodiverse learners frequently struggle with cooperation, with a majority demonstrating aggressive and unmanageable tendencies. Additionally, she remarked that the large class sizes lead to serious oversight:

> 'They are many learners who are not supposed to be here honestly. They are supposed to be doing vocational subjects. Because of their disorder, they become so embarrassed. Some become uncontrollable, rude, and aggressive sometimes. They hide out because our classes are just too big.' (P34/SI/ln53-55)

Participants consistently reported that the curricula provide inadequate support for learners with DLD. The speech therapist noted that while the ministry encourages specialist referrals, these mainly come from primary schools. The educational psychologist criticised the curricula's academic focus, arguing it fails to accommodate diverse abilities and interests. Teachers C, D and E shared similar concerns, with Teacher C noting that non-academic subjects like creative arts offer some relief. Teacher E expressed additional challenges, including large class sizes, behavioural issues and the belief that many of these learners would be better served in special schools. These perspectives suggest that the education system remains rooted in medical and social frameworks of disability, despite existing inclusive education policies. Extensive research documents the challenges mainstream schools face in implementing inclusive education policies, preparing teachers for diverse classrooms and developing neurodiversity-supportive teaching strategies (Cook 2024). Several research studies by Tebele and Chaka (2024), Mpu and Adu (2021), Hove and Pasha (2024), Ntseto et al. (2021) and Yoro et al. (2020) have indicated that mainstream school systems remain inadequately prepared to include and support neurodiverse learners.

The relationship between language and curricula is inherently linked, given that curricula are communicated through language. The choice of Medium of Instruction has long been a topic of contention, especially in multilingual contexts, because of its influence on the success of education (Goral & Conner 2013). Learner 54 reported experiencing challenges in grasping English as the language of instruction; yet, he finds himself unable to express this concern to his teacher:

> 'I honestly lose focus in class [*laughs*]. I do have challenges in understanding lessons taught in English, am not open so my teachers will be thinking am okay while not okay. Am not that open you know.' (L54/FGD/ln25-27)

Additionally, some learners pointed out that they shied away from participating in class because other learners would make fun of them:

> 'I cannot participate in class, *yo*! Some students always laugh when I miss the correct answer.' (L36/FGD/ln29)
>
> 'If you spell the word wrong, they laugh in class so I will be ashamed you know. So, it is best to keep your cool in class, you know.' (L50/FGD/ln28)

Figure 1 presents the number of learners who struggle with the use of English as the MoI. Out of 22 learners participating in the study, 19 reported difficulties with English as MoI. The breakdown by school was as follows: School C (3 boys, 4 girls), School D (2 boys, 5 girls) and School E (3 boys, 2 girls). Studies indicate that the MoI significantly affects learners' academic achievement. This suggests that learners who possess a strong command of the instructional language tend to excel in their studies (Owu-Ewie & Eshun 2015). Based on the study's outcomes, it is evident that learners with DLD are in a precarious position within secondary schools. Research has demonstrated that these learners tend to acquire a second language (L2) at a slower pace and face serious difficulties in both reading and writing in their first language (L1) (Paradis 2016). These learners frequently encounter obstacles when operating within multilingual classrooms. The study's results show that out of a total of 22 learners, 19 had difficulties utilising English as the MoI.

Educational ministries and departments throughout sub-Saharan Africa are actively working to advance inclusive education by implementing various educational policies and action plans. Nevertheless, the integration of neurodiverse learners into mainstream educational environments remains unachieved in many nations because of well-documented factors (Genovesi et al. 2022). Studies conducted in Zimbabwe and South Africa reveal considerable deficiencies in both policy and implementation concerning inclusive curricula within mainstream secondary education. The current educational systems are ill-equipped to accommodate neurodiverse learners. These conclusions are strongly corroborated by existing literature. Several scholars have highlighted challenges attached to the policy formulation and implementation that impede the inclusion of neurodiverse learners in the mainstream curricula: Adewumi, Mosito and Agosto (2019), Raphadu (2021), Van Rensburg et al. (2024), Siziba and Kaputa (2023), Dube et al. (2021), Mangena and Chidakwa (2024), Chataika and Hlatywayo (2022), Mutanga (2024), Lemeyu and Chikutuma (2024), Chitiyo and Dzenga (2021), Mazuruse, Nyagadza and Makoni (2021) and Chitiyo et al. (2024). These challenges are promoted by weaknesses in medical and social frameworks that are used to perceive neurodevelopmental conditions. There is evidence that the medical and social frameworks are at play in policy formulation and in the implementation of inclusive education. However, there is limited research on how these frameworks have impeded smooth inclusion of neurodiverse learners in mainstream schools. There is a need for a change in thinking in viewing neurodevelopmental conditions. There is need for major reframing of the education system, highlighting the variety of unique cognitive strengths that neurodiverse learners can exhibit.

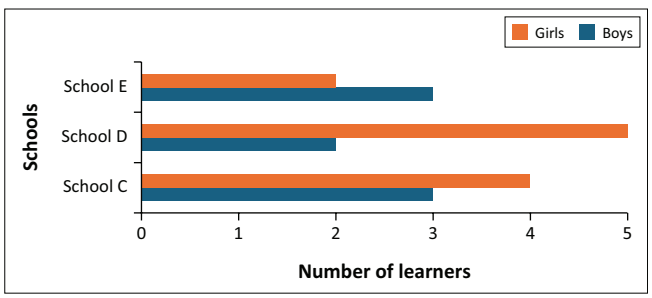

FIGURE 1: Learners who struggle with the use of L2 as medium of instruction.

Recommendations

This article has examined stakeholders' perspectives on including learners with DLD, a specific type of NDD, in mainstream secondary school curricula through a neurodiversity lens. Our analysis of NDD conceptualisation, frameworks used to conceptualise NDDs and inclusive education policies in Zimbabwe and South Africa yielded several significant insights. While both countries have established inclusive education policies and legislation for neurodiverse learners, their implementation progress differs. South Africa has made notable strides in developing support structures, whereas Zimbabwe shows emerging progress despite facing significant resource and implementation challenges. In both contexts, however, substantial work remains in effectively translating these policies into consistent classroom practice. Notably, our findings revealed that current inclusive policies and practices primarily operate within medical and social frameworks. A critical limitation of these approaches is their reliance on external observations while overlooking the lived experiences and perspectives of neurodiverse individuals themselves. This observer-centric approach creates a significant gap in understanding and addressing the educational needs of neurodiverse learners effectively.

Stakeholders across both research sites identified significant concerns regarding the curricula's relevance for neurodiverse learners. Several systemic challenges emerged from the data. Teachers indicated a lack of adequate training in assisting learners with DLDs, and there was a significant scarcity of access to specialised support services for secondary school learners with DLDs. The academically focused curricula structure, combined with time constraints, impeded teachers' ability to provide necessary individualised support. Additionally, the mandatory use of English as the MoI posed difficulties for learners with DLD.

Behavioural challenges were also reported, with stakeholders noting that some learners with DLDs exhibited difficulties with self-regulation and aggressive behaviours. Learners themselves described experiences of impatience from teachers, including unfavourable comparisons with their

peers. These findings suggest a complex interplay of curricular, pedagogical and interpersonal factors affecting the educational experiences of learners with DLDs.

This study makes a significant contribution to the scholarship on inclusive education for neurodiverse learners while advocating for a transformative shift in educational approaches through a neurodiversity lens. The neurodiversity paradigm offers a compelling framework for reimagining inclusive education by promoting a diverse and creative curriculum that capitalises on learners' strengths rather than focusing solely on remediation of challenges. This approach represents a fundamental shift from viewing neurological variations as disorders to understanding them as valuable aspects of human diversity. The findings underscore the critical need for continued research, policy refinement and practical implementation of inclusive strategies that embrace neurodiversity principles. With the evolution of educational systems towards a deeper acceptance and comprehension of neurological differences, it is imperative that they foster environments that truly support and recognise the diverse needs, skills and potential of all learners. This transformation in perspective, from a deficit-based to a strength-based approach, aligns with the broader societal movement towards recognising and valuing neurodiversity as an integral component of human variation.

Conclusion

Future research should examine several key areas to advance neurodiversity-affirming education. Longitudinal studies are needed to evaluate the long-term outcomes of inclusive education for neurodiverse learners, particularly focusing on academic achievement, social integration and post-secondary transitions. Research priorities should include investigating effective classroom-based strategies that support neurodiversity, such as flexible assessment methods, multimodal instruction and strength-based pedagogical approaches. Additionally, studies should explore how teacher education programmes can better prepare teachers to implement neurodiversity-affirming practices in mainstream classrooms. Through this continued research agenda, the education system can evolve beyond mere accommodation to genuine celebration and optimisation of neurodiversity, fostering environments where all learners can thrive.

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Competing interests

The author M.M.S., declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article. The author M.M.S., serves as an editorial board member of this journal. The peer review process for this submission was handled independently, and the author had no involvement in the editorial decision-making process for this manuscript. The author has no other competing interests to declare.

Authors' contributions

N.N.N.-C. organised the research participants and collected data. She wrote the manuscript. M.M.S. supervised, reviewed and edited the article.

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Data availability

The authors confirm that the data supporting the findings of this study are available upon request from the corresponding author, N.N.N.-C.

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