A Qualitative Exploration of Teachers' Experiences with Autism Spectrum Disorder in Autism Centers in Central Uganda

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Abstract

While autism has received attention in education research, it is notable that teachers of children with autism are underresearched, especially in the Ugandan context. This phenomenological qualitative study explored the experiences of teachers supporting children with ASD in central Uganda. Using interpretative phenomenological analysis (IPA), interviews were conducted with ten teachers from selected autism centers in Kampala. Data collection involved open-ended questions exploring teaching practices, challenges, and personal experiences. Analysis followed the seven-stage IPA process, ensuring a thorough exploration of themes. Four main themes emerged: challenges in teaching children with ASD, stigma and discrimination, emotional impact on teachers, and the debate between pharmacological and non-pharmacological interventions. Teachers expressed difficulties in recognizing ASD, lack of specialized training and resources, and the emotional toll of their work. Stigma and discrimination were pervasive, affecting both students and teachers. Teachers favored holistic approaches over medication, emphasizing the importance of supportive environments. Despite the emotional toll, teachers also acknowledge the transformative impact on their personal growth, fostering patience and empathy. Teachers in central Uganda face significant challenges in supporting children with ASD, including stigma, resource limitations, and emotional strain. Tailored interventions addressing these challenges are essential for improving outcomes for students with autism. Holistic approaches emphasizing support and understanding should be prioritized over pharmacological interventions, aligning with cultural and contextual needs.

Keywords Autism · Lived experiences · Stigma · Resource limitations · Holistic interventions

Introduction

Autism Spectrum Disorder (ASD) is a neurodevelopmental condition characterized by a diverse range of challenges in social communication, repetitive behaviors, impaired social skills, and restricted interests (American Psychiatric Association & Association, 2013). Autism spectrum disorder

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presents a multifaceted challenge globally, impacting individuals across socioeconomic divides (WHO, 2023). While prevalence rates might suggest a higher concentration in higher-income nations (Lester et al., 2021), access to diagnosis and treatment remains limited, particularly in low- and middle-income countries like Uganda (Bauer et al., 2022). This incongruity underscores the complexity of addressing ASD, not solely in terms of prevalence but also in ensuring equitable access to necessary interventions. Despite increasing awareness and research in affluent nations, gaps persist in understanding and addressing ASD in regions like sub-Saharan Africa (Bauer et al., 2022). In Uganda, where such insights are particularly scarce, the need for comprehensive approaches to support individuals with ASD becomes imperative. Education interventions have been a focal point, yet the experiences of individuals with autism suggest a disconnect between interventions and their actual needs (Wood & Happé, 2023), emphasizing the necessity for more contextually relevant support systems. This





underscores the importance of not only expanding access to diagnosis and treatment but also tailoring interventions to the unique sociocultural contexts in which individuals with autism reside, ultimately fostering more inclusive and effective support structures.

Existing literature underscores the critical role teachers play in supporting the educational journey of children with autism, particularly within specialized settings like autism centers, where they significantly influence academic progress, as well as social and emotional development (Hijab et al., 2024; Love et al., 2020). However, despite their significance, research indicates that many teachers in these environments feel ill-equipped to address the unique needs of students with autism, often due to a lack of specialized training in ASD (Baek et al., 2024; Williams et al., 2019). While studies on teachers' experiences with autism spectrum disorder abound, they predominantly reflect Western values and contexts (Boujut et al., 2017; Ruble et al., 2011). This highlights a gap in understanding the experiences of teachers working closely with children with autism in Uganda. Most of the studies are largely situated outside Uganda and may not fully capture the experience of teachers in this region, where cultural, economic, and institutional factors shape the landscape of autism education. Therefore, there is a critical need to explore the experiences of teachers in central Uganda to better tailor interventions and support strategies to the local context. The study conducted by Oliver-Kerrigan and colleagues sheds light on the challenges faced by general education teachers in educating students with autism (Oliver-Kerrigan et al., 2021). While the study may focus on a different educational context, its findings resonate with the experiences of teachers in autism centers in central Uganda. This highlights a broader systemic issue that extends beyond geographical boundaries, emphasizing the global need for improved training and resources for teachers working with individuals with autism.

The World Health Assembly Resolution WHA73.10 for "global actions on epilepsy and other neurological disorders" and the World Health Organization (WHO) Comprehensive Mental Health Action Plan 2013-2030 both urge nations to close the significant gaps that currently exist in the early diagnosis, care, treatment, and rehabilitation of mental and neurodevelopmental conditions, including autism. Along with improving monitoring and pertinent research, it also requires counties to address the social, economic, educational, and inclusion needs of individuals and families living with mental and neurological diseases (WHO, 2021). However, teachers may feel they lack the training in autism (Al Jaffal, 2022), yet are considered central to the educational participation of children with autism (Wood & Happé, 2023). Teaching children with autism is difficult and tedious and requires a unique structured program and a lot of energy and time (de Verdier et al., 2018). Also, despite the growing body of research on the experiences of autistic university lecturers (Martin, 2021), little is known about the experiences of teachers of children with autism.

In Uganda, the understanding and accommodation of students with ASD within the educational system present a significant challenge. In the context of central Uganda, where resources and support systems for autism education may be limited, the challenges faced by teachers in autism centers are likely exacerbated. Without access to specialized training programs or professional development opportunities, teachers may struggle to implement evidence-based practices and interventions tailored to the unique needs of students with autism. This can hinder the quality of education and support provided to children with autism, potentially impacting their long-term outcomes and well-being. Despite the increasing awareness of ASD, there is a dearth of comprehensive research focusing on the lived experiences of teachers who work closely with students on the spectrum. The existing literature concentrates on the prevalence (Arinda et al., 2021) of ASD and fails to adequately capture the difficulties, and coping mechanisms employed by teachers of children with autism in the Ugandan context. Therefore, it was essential to conduct a study that explored the intricate network of teachers' experiences with ASD in Uganda, ultimately contributing to the development of targeted interventions and strategies for improving the educational outcomes and overall well-being of students with ASD in the central region.

Methods

Design

The qualitative research conducted with teachers working in autistic centers in Kampala between August and September 2023 employed interpretative phenomenological analysis (IPA), a method well-suited for in-depth exploration of human experience (Smith & Fieldsend, 2021). IPA allowed for a comprehensive examination of how teachers make sense of their experiences working with children autism in the Ugandan context, shedding light on the nuanced aspects of their roles and challenges. Within the IPA framework, the research not only explored individual experiences but also explored among participants, identifying thematic connections within the small sample size (Smith & Fieldsend, 2021). This approach facilitated an understanding of the shared and unique aspects of teachers' experiences, enriching the exploration of the research topic and providing valuable insights into the complexities of autism education in central Uganda.

Participants

In this qualitative exploration, the participants comprised teachers actively engaged in the education and support of children with autism within four carefully selected autism centers located in Kampala, Uganda, ensuring a concentrated investigation into their experiences within a controlled environment. Participants were selected through purposive sampling techniques, targeting individuals with substantial experience and insights into the topic. Various strategies were employed, including direct engagement with school administrators and educational authorities overseeing autism programs, distribution of flyers at schools, and informational sessions at the selected centers to encourage participation. The sample consisted of seven female and three male teachers, representing the available pool within the selected autism centers. Although this distribution may not fully mirror the gender demographics of teachers in Uganda, it reflects the composition of the participant pool. The recruitment of 10 participants aligned with the IPA recommendation for a small and homogeneous sample (Eatough & Smith, 2017), ensuring a focused exploration of the individual experiences of teachers supporting children with autism. These participants met the inclusion criteria of having three or more years of teaching experience with children with autism, thus facilitating a comprehensive understanding of their perspectives and experiences within the context of the research inquiry.

Measures

Interpretative phenomenological analysis is best suited to a data collection technique that allows the participants to offer a rich, thorough, first-person narrative of their experiences (Smith, 2016). We used an in-depth interview guide to collect the data. The choice of the items allowed a degree of freedom in the interview, where identified issues could be explored and discussed. The interviews allowed the researcher freedom to pursue ideas and trains of thought expressed by the participants. The interview guide consisted of items connected to research under exploration: teaching and classroom practices, challenges and support systems, stigma and personal and emotional experiences. Participants were engaged with open-ended questions tailored to elicit rich insights, including inquiries such as: (i) "Could you describe your experiences working with children with autism in the autism centers?" (ii) "What challenges do you encounter in your role as a teacher/support staff for children with autism?" (iii) "Can you share any memorable experiences or success stories from your interactions with children with autism?" Additionally, prompts were included to encourage the expansion of themes, such as asking participants to elaborate on specific instances or provide examples to illustrate their points. The three items were simply a broad framework used to start the process of encouraging the participants to articulate their experiences. The three items served only as a general framework to let the participants begin to share their experiences. To elicit detailed responses from the participants and produce richer, more thorough data, open-ended questions were employed.

Procedure

Following approval, research assistants with a background in social sciences and qualitative research were carefully selected for data collection. To ensure consistency and a thorough understanding of the research objectives, a oneday refresher training session was conducted for the four research assistants. During this training, emphasis was placed on the significance of establishing rapport with participants prior to commencing the interviews. Additionally, the interview guide was thoroughly reviewed, and a pilot study was conducted with the research assistants to identify and address any potential issues. The interviews were audio recorded to capture the participants' responses accurately.

Before the interviews commenced, participants were informed about the recording process to ensure transparency and obtain their consent. Conducted in English, as the participants were teachers fluent in the language, the interview process commenced with participants initially discussing their experiences working with children with autism they supported, gradually transitioning to a deeper exploration of topics pertinent to the research inquiry. Participants were engaged with open-ended questions tailored to elicit rich insights, including inquiries such as: (i) "Could you describe your experiences working with children with autism in the autism centers?" These questions facilitated a comprehensive understanding of the participants' perspectives and allowed for the exploration of diverse experiences within the context of the research topic. The interviews, designed to foster detailed discussions, typically extended for approximately 50 min, enabling thorough exploration and documentation of participants' viewpoints and experiences.

Analysis

In data analysis, we meticulously adhered to the sevenstage IPA process outlined by Smith and colleagues (Smith, 2016). Initially, upon transcribing the audio data and immersing ourselves in the verbatim text, we engaged in familiarization with the material, marking the commencement of Stage 1. Subsequently, in Stage 2, we generated initial codes to capture salient aspects of teachers' experiences with ASD. These codes served as the foundation for Stage 3, where we began clustering them to identify emergent themes. Through a systematic approach characteristic of Stage 4, we reviewed and refined these themes, ensuring coherence and relevance to our research question. Stage 5 involved the development and naming of themes, accompanied by detailed descriptions to encapsulate their meaning. As we progressed to Stage 6, we crafted a narrative integrating these themes, supported by data excerpts, to provide a comprehensive interpretation of teachers' experiences with ASD in autism centers. Finally, in Stage 7, we engaged in critical reflection on our interpretations, considering alternative explanations and acknowledging any inherent limitations or biases in our analysis process. Regarding reliability, we employed several methods to ensure consistency in our analysis. Discrepancies were resolved through regular team meetings where independent coders reviewed and discussed their interpretations. We used inter-coder reliability checks to ensure similar responses were obtained when independently reviewing the data. This rigorous process allowed us to reach a consensus on the final themes and ensured the reliability of our findings. This methodological rigor enabled us to uncover the intricate dynamics of teachers' encounters with ASD, shedding light on their challenges, coping mechanisms, and support needs within the unique context of autism centers in central Uganda.

Trustworthiness

The reliability of the methodological rigor of qualitative research is examined with respect to the findings' confirmability, credibility, dependability, and transferability (Shenton, 2004). Finding credible themes required both reflexive analysis and a multi-leveled coding procedure. In an effort to make the results more transferable, efforts were made to adequately contextualize the goals and methods that led to this investigation. The research team also kept an audit trail, which recorded methodological decisions and steps. This audit trail serves as a transparent record, ensuring

Table 1 Demographic characteristics of the participants

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Participants	Gender	Teaching experience	Age range
А	Female	4	20–29
В	Female	8	30–39
С	Male	7	30–39
D	Female	9	40-50
Е	Male	4	40-50
F	Female	7	30–39
G	Female	6	20-29
Н	Male	5	30–39
Ι	Female	7	20-29
J	Female	9	> 50

accountability and facilitating the understanding and evaluation of the research methodology.

It is frequently impossible for researchers to completely suspend their personal biases while analyzing data in the context of qualitative research. However, the coders were aware of the potential effects of their personal opinion on the coding. After independently coding the transcripts, they talked about how one's own prejudices and views could affect how results are interpreted.

Results

Demographic Characteristics of the Participants

Table 1 of the 10 participants in this study, seven were female, nine had taught for over years and majority (4) were aged between 30 and 39 years.

Findings

This qualitative investigation delves into the nuanced experiences of teachers dedicated to nurturing the development and advancement of children living with ASD in central Uganda. The analysis of teachers' experiences within ASD centers yielded four prominent themes: challenges encountered in teaching children with ASD, stigma and discrimination, emotional and psychological impacts on teachers, and the debate between pharmacological and non-pharmacological interventions. Each theme is elucidated below:

Theme One: Challenges While Teaching Children with ASD

Numerous challenges were reported by teachers working in autism centers, which significantly impact teaching methodologies, emotional well-being, and professional growth. From the perspectives of teachers, these challenges revealed four sub-themes:

Sub-Theme 1: Challenge in Recognizing and Understanding ASD

Teachers grapple with the complexities of identifying and comprehending ASD, hindering their ability to provide effective support. Despite possessing some background in special education, many teachers expressed their struggles in fully understanding and assisting children with ASD. The following quotes illustrate these challenges:

With ASD, every child exhibits a different pattern of difficulties and abilities. As a teacher in the autism

center, our daily goal is to identify and comprehend these complex designs... this has never been easy for me. – Teacher A.

My thinking is that ASD demands specialized skills. Therefore, recognizing and understanding the hint of autism requires a shift in perspective and a commitment to embracing neurodiversity. – Teacher B.

Sub-Theme 2: Lack of Specialized Training and Professional Development

This sub-theme highlights the intertwined yet distinct need for both specialized initial training and continuous professional development, which together form the foundation of effective teacher preparation. Teachers expressed concerns about the inadequacy of specialized training for addressing the complexities of ASD, highlighting the urgent need for ongoing professional development tailored to their unique challenges. The disparity between their current knowledge and the skills required often forces teachers into a trial-anderror approach, which is detrimental to both their effectiveness and the students' learning outcomes. The following interview excerpts further illuminate these challenges:

Teaching children with autism demands specialized skills, and we often find ourselves struggling due to the lack of proper training. The result is a gap between what we know and what we need to know to effectively support our students with autism. – Teacher C.

I feel unprepared to support children with ASD. There is a need for training for all of us in the region and the country... I was not prepared to handle autism and its features. – Teacher D.

Sub-Theme 3: Lack of Resources

Teachers encounter significant challenges due to the widespread lack of resources such as visual schedules, picture exchange communication systems (PECS), and social stories help children with autism understand routines, communicate, and navigate social situations. This severely limits their ability to adapt teaching methods to meet the diverse needs of children on the autism spectrum. Despite their innovative efforts, the persistent scarcity of essential tools and materials continues to be a major obstacle to delivering quality education. The following statements from teachers capture these struggles: It often feels like we are struggling against the odds, attempting to provide the best education for our students with autism, but our efforts are hampered by the glaring lack of resources like fidget toys, weighted blankets, sensory bins and others. – Teacher A.

The shortage of resources limits our ability to tailor our teaching methods to cater to the diverse needs of children on the spectrum... we need tool such as visual schedules, picture exchange communication systems (PECS), and social stories but we can get them. In the absence of adequate resources, we find ourselves constantly innovating with the limited tools at our disposal. – Teacher G.

Sub-Theme 4: Co-Occurring Conditions

The interplay between ASD and co-occurring conditions presents additional challenges for teachers, further complicating their roles. Teachers navigate the complexities of addressing multiple needs simultaneously, underscoring the necessity for flexible and individualized approaches. Participants' accounts shed light on this multifaceted issue:

It gets hard to understand ASD when there are other conditions involved... As teachers, we need to adjust our methods based on each child's individual needs. – Teacher D.

We have difficulties that go beyond just dealing with autism... Every child is different, with their own strengths and challenges. – Teacher B.

Theme Two: Stigma and Discrimination

Teachers working in autism centers in central Uganda often confront various forms of stigma associated with ASD. They often witness societal attitudes that attribute ASD to parental wrongdoing or divine punishment, leading to the blaming and ostracization of affected families. This societal bias extends into educational settings, where discrimination against students with ASD manifests as exclusion from mainstream schools or inadequate support, further reinforcing stigma and marginalization. The narratives of these teachers shed light on the deep-seated biases within Ugandan society that impede the progress of children with ASD, illustrating the significant impact of stigma on the school environment. Within this overarching theme, two distinct subthemes emerge:

Sub-Theme 1: Social Exclusion

The prevalent societal beliefs and attitudes contribute to the marginalization and isolation of children with ASD within their communities. Teachers highlighted the challenges faced by these children as they navigate environments marked by misunderstanding and fear:

In our community, there's a prevailing belief that children with autism are possessed by evil spirits... Because of this, families often keep their children hidden at home, away from public view. – Teacher A.

Autism isn't just about the child's developmental challenges; it's also about dealing with a society that might not know much and sometimes treats them unfairly. – Teacher J.

In addition, teachers' narratives highlight a prevalent societal perception wherein individuals, including parents of children with autism, often view these children as incapable, unintelligent, or burdensome.

In our community, some parents believe kids with autism can't really do much. They may bring them to our center because they feel they can't handle them at home. – Teacher C.

In our area, many people think kids with autism aren't as good or capable as other kids who don't have autism. This idea makes it harder for kids with autism to do their best and makes others treat them unfairly, leaving them out and making them feel left out. – Teacher G.

Sub-Theme 2: Lack of Support from Peers

The lack of understanding and solidarity among colleagues exacerbates the challenges faced by teachers and directly impacts the educational journey of students with ASD. Teachers' voices shed light on the detrimental effects of stigma and discrimination on inclusive education efforts:

My colleagues don't understand ASD... I feel isolated and unsupported in dealing with the unique needs of my students. – Teacher E.

Stigma affects everything we do, impacting both the kids and us teachers... We strive to address misunder-standings in society. – Teacher F.

Theme Three: Emotional and Personal Impact on Teachers

Teachers engaging with children with ASD experience a unique set of emotional challenges, which significantly impact their well-being. Despite the toll, teachers also acknowledge the transformative impact on their personal growth, fostering patience and empathy:

It's really tough and emotionally draining... I start to doubt myself and worry if I'm doing a good job. – Teacher H.

It's a journey to grow as a person... It changes me as a person as well as a teacher. – Teacher J.

..... It's not just about teaching; it's about navigating through a Ugandan system that often overlooks the needs of these children. – Teacher K.

Theme Four: Pharmacological vs. Non-Pharmacological Interventions

Teachers reflected on the delicate balance between pharmacological and non-pharmacological interventions in the care and education of children with ASD. While acknowledging the potential benefits of medications, they emphasized the importance of holistic approaches and non-pharmacological interventions:

Medications may help, but the things that really make a difference... are our everyday interactions, special teaching methods, and social and emotional support. – Teacher A.

It's just as important to build trust, understand each person's strengths and weaknesses, and create a supportive environment. – Teacher A.

Discussion

A qualitative exploration was conducted to explore the experiences of teachers supporting children with ASD in autism centers in central Uganda. Four prominent themes emerged from the data analysis: challenges encountered in teaching children with ASD, stigma and discrimination, emotional and personal impact on teachers, and the debate between pharmacological and non-pharmacological interventions. Teachers described facing difficulties in recognizing and understanding ASD, lamented the lack of specialized training and resources, and highlighted the complexities of addressing co-occurring conditions. Moreover, they expressed witnessing societal attitudes attributing ASD to parental wrongdoing, leading to social exclusion and lack of support from peers. Teachers also shared the emotional toll of their work, acknowledging the transformative impact on their personal growth. In navigating through a Ugandan system that often overlooks the needs of children with ASD, teachers underscored the importance of holistic approaches and non-pharmacological interventions, emphasizing the significance of everyday interactions and creating a supportive environment. These findings show the challenges faced by teachers in central Uganda and highlight the necessity for comprehensive approaches to support children with ASD, addressing stigma, prioritizing teacher well-being, and providing specialized training and resources.

The recurrent theme of difficulties in recognizing and understanding ASD among teachers emphasizes a pervasive issue in educational settings worldwide. This lack of awareness often leads to delayed diagnosis and intervention, hindering the optimal support for children with ASD. Additionally, the lament over insufficient specialized training and resources aligns with findings from studies especially in developing contexts (Gómez-Marí et al., 2021). The absence of tailored professional development opportunities for teachers in Uganda exacerbates the already complex task of addressing the diverse needs of students with ASD, including co-occurring conditions. The repetition of these challenges across different studies (Gómez-Marí et al., 2021) suggests a pressing need for systemic changes in educational policies and practices to better support teachers and students with ASD (Cook & Ogden, 2022; Edward, 2015). However, the specific context of central Uganda may introduce unique challenges that warrant attention. Factors such as limited access to healthcare services, cultural beliefs surrounding disabilities, and resource constraints could further compound the difficulties faced by teachers in this region. Understanding these contextual factors is crucial for developing targeted interventions and support systems tailored to the needs of teachers and students in central Uganda.

Our findings reveal a scarcity of resources and expertise among teachers at autism facilities in central Uganda, hindering the development of an ideal learning environment for children with ASD. Unlike in developed countries, where teachers often have access to resources and training for working with children with ASD (Oliver-Kerrigan et al., 2021), central Uganda grapples with significant limitations. Limited government funding leads to a lack of essential tools and materials necessary for creating an optimal learning environment for children with ASD. Additionally, there is a shortage of skilled personnel, exacerbated by a lack of specialized training programs. This lack encompasses educational tools, adaptive technologies, sensory materials, and skilled personnel like support workers and special education specialists. These challenges resonate with broader studies on resource limitations impacting ASD education globally (Williams et al., 2019). Addressing these issues requires a focused effort involving educators, policymakers, and the larger community to provide essential resources, training, and awareness while fostering collaboration to ensure quality education for children with ASD in central Uganda.

The findings of the current study shed light on a pervasive issue seen in the experiences of teachers in central Uganda, namely, the prevalence of stigma and discrimination surrounding ASD. This aligns with the broader body of research conducted in various cultural contexts globally, indicating that societal attitudes often contribute to the marginalization of individuals with ASD and their families (Botha & Frost, 2020). The attribution of ASD to parental wrongdoing, as reported by teachers in central Uganda, is a particularly concerning aspect of this stigma, as it not only exacerbates the challenges faced by families but also perpetuates misconceptions about the nature of ASD (Kabunga et al., 2024). The resulting social exclusion and lack of support from peers further compound the difficulties for both individuals with ASD and their caregivers. Similar studies conducted in diverse regions have consistently identified stigma and discrimination as significant barriers to the inclusion and well-being of individuals with ASD (Harris, 2004). Teachers frequently encounter societal prejudices that hinder their ability to effectively support students with ASD (Al Jaffal, 2022). However, while the overarching themes may align, the aspect of stigma can vary significantly based on cultural and contextual factors. Therefore, interventions aimed at addressing stigma and discrimination must be tailored to the specific socio-cultural factors of the region. In the context of central Uganda, interventions should focus on not only providing resources and training for teachers but also on community-wide initiatives that challenge harmful beliefs and promote inclusivity.

The findings of the current study explored the emotional and personal impact experienced by teachers working with children with ASD in central Uganda. This aspect of the study highlights a dimension often overlooked in discussions about teaching in ASD centers. The acknowledgment by teachers of the transformative effect on their personal growth underscores the profound nature of their work and the challenges they face within the Ugandan educational system, which may not adequately address the needs of children with ASD. This emotional toll likely arises from the complex nature of teaching children with ASD, which requires patience, empathy, and specialized training, resources that may be lacking in the Ugandan context. Comparing these findings to similar studies conducted elsewhere, we find a consistent theme of the emotional and personal impact of teaching children with ASD on educators (Cappe et al., 2016). Whether in Uganda, other parts of world, teachers often express the emotional challenges they encounter in their work with children with ASD. However, the specific manifestations of these challenges may vary based on cultural and contextual factors. In regions where resources and support for children with ASD are scarce, as in central Uganda, the emotional burden on teachers may be particularly pronounced. Therefore, interventions aimed at supporting teachers in ASD centers should not only focus on providing practical training and resources but also prioritize addressing their emotional well-being.

The findings of the current study add a valuable perspective to the ongoing debate between pharmacological and non-pharmacological interventions for children with ASD, particularly within the context of central Uganda. Teachers in ASD centers emphasized the importance of holistic approaches, favoring non-pharmacological interventions over solely relying on medication. Their emphasis on everyday interactions and the creation of a supportive environment highlights the recognition of the complex needs of children with ASD beyond medical treatments. This shows the importance of considering cultural and contextual factors in designing interventions for ASD, especially in regions like central Uganda where access to pharmacological treatments may be limited. Studies have highlighted the limitations and potential side effects of pharmacological interventions (Zarafshan et al., 2017). leading to a shift towards more holistic and individualized approaches. Drug side effects are the main reason why non-drug treatments like self-management, cognitive-behavioral therapy and parent training are needed (Gajdzik & Bryńska, 2012). However, the specific emphasis on everyday interactions and creating a supportive environment reported by teachers in central Uganda may reflect the unique challenges and resources available in that context. Therefore, interventions aimed at supporting children with ASD in central Uganda should prioritize building capacity among educators to implement non-pharmacological interventions effectively.

Relevance and Practice Implications

The findings of this study offer significant insights with global relevance. The study reveals critical themes and challenges that are highly relevant to educational practices worldwide. Despite limited resources and specialized training, these educators demonstrate resilience and dedication, which highlights a pressing need for enhanced support and professional development. Globally, the challenges faced by Ugandan teachers, such as inadequate resources, lack of specialized training, and societal stigma, are not unique. They resonate with issues observed in various educational contexts, highlighting the need for comprehensive and culturally sensitive training programs and resource allocation. The study's findings emphasize the importance of addressing stigma and discrimination, which can affect both educators and students, and advocate for a more inclusive and supportive approach to teaching ASD.

For school psychologists and educators worldwide, particularly those working in under-resourced settings, these insights underline the importance of developing and implementing targeted support systems and professional development opportunities. By leveraging the experiences and strategies of Ugandan educators, global practices can be enriched, fostering a more inclusive and effective educational environment for students with ASD. This research highlights the necessity of integrating both pharmacological and non-pharmacological interventions and underscores the value of tailored, context-specific approaches to enhance educational outcomes and teacher well-being across diverse settings.

Strengths and Limitations of the Study

The study provides a comprehensive exploration of teachers' experiences in central Uganda, filling a significant gap in research regarding the under-studied topic of teachers of children with autism in this region. Despite its strengths, the study had several limitations that warrant consideration. Firstly, due to the small sample size and the focus on teachers from four autism centers in central Uganda, the findings may have limited generalizability to other contexts or populations. Secondly, the study highlights the pervasive lack of resources faced by teachers in autism centers in central Uganda. While this finding provides valuable insights into the challenges encountered by educators, resource constraints may have impacted the depth and scope of the research process. Future studies could explore strategies for addressing resource limitations in educational settings, such as advocating for increased funding or developing partnerships with organizations that provide support for children with ASD. Lastly, while the study offers valuable insights into teachers' experiences, it primarily focuses on their perspectives. Future research could adopt a more comprehensive approach by including the perspectives of other stakeholders, such as parents, administrators, and policymakers, to gain a holistic understanding of the challenges and opportunities in supporting children with autism in central Uganda.

Moving forward, there are several avenues for future research that could build upon the findings of this study. One important next step would be to explore ways to increase professional development opportunities for teachers working with children with ASD in central Uganda. This could involve developing training programs specifically tailored to the needs of educators in this context, as well as advocating for increased funding for professional development initiatives. Additionally, future research could explore the feasibility of adapting and implementing existing resources from other countries, such as the National Clearinghouse on Autism Evidence and Practice or the AFIRM Modules (Szendrey, 2020). Efforts could also be made to translate these resources into African dialects or Ugandan languages to ensure accessibility for local educators.

Conclusion

Teachers in central Uganda face significant challenges in supporting children with ASD, including stigma, resource limitations, and emotional strain. Tailored interventions addressing these challenges are essential for improving outcomes for students with autism. Holistic approaches emphasizing support and understanding should be prioritized over pharmacological interventions, aligning with cultural and contextual needs.

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Data Availability The data that support the findings of the present study are available from the corresponding auther upon reasonable request.

Declarations

Ethical Approval The present study was approved by the Makerere School of Public Health Research and Ethics Committee (MakSPH-20-2022). Before the interviews, the participants were informed of their right to withdraw at any time. They were informed the research aim. The interviews took place in quiet places in the centers where the conversations could take place in private with no interruptions. Additionally, it was emphasized that after the interviews were over, the audio data would be destroyed after it had been transcribed, maintaining confidentiality and anonymity. Also, interview audio recordings were saved to a passworded protected files and computer immediately after the interview. Before data collection, the participants signed a consent form.

Conflict of Interest The authors declare not conflict of interest.

References

- Al Jaffal, M. (2022). Barriers general education teachers face regarding the inclusion of students with autism. *Frontiers in Psychol*ogy, 13, 873248.
- American Psychiatric Association, D., &, & Association, A. P. (2013). Diagnostic and statistical manual of mental disorders: DSM-5 (Vol. 5, Issue 5). American psychiatric association Washington, DC.
- Arinda, A., Nakasujja, N., & Odokonyero, R. (2021). Prevalence of autism spectrum disorder symptoms in a paediatric neurology clinic at a tertiary hospital in Uganda. South African Journal of Psychiatry, 27, 1548.
- Baek, C., Aguilar, S. J., & Warschauer, M. (2024). Exploring teachers' self-efficacy and willingness to provide accommodations in teaching students with autism: An intervention study. *Teaching* and Teacher Education, 140, 104488.
- Bauer, K., Morin, K. L., Renz, I. I. I., T. E., & Zungu, S. (2022). Autism assessment in low-and middle-income countries: Feasibility and usability of western tools. *Focus on Autism and Other Developmental Disabilities*, 37(3), 179–188.
- Botha, M., & Frost, D. M. (2020). Extending the minority stress model to understand mental health problems experienced by the autistic population. *Society and Mental Health*, 10(1), 20–34.
- Boujut, E., Popa-Roch, M., Palomares, E. A., Dean, A., & Cappe, E. (2017). Self-efficacy and burnout in teachers of students with autism spectrum disorder. *Research in Autism Spectrum Disorders*, 36, 8–20.
- Cappe, E., Smock, N., & Boujut, E. (2016). Schooling for children with autism spectrum disorders and the experience of teachers: Personal efficacy, perceived stress and perceived social support. *Evolution Psychiatrique*, 81(1), 73–91.
- Cook, A., & Ogden, J. (2022). Challenges, strategies and self-efficacy of teachers supporting autistic pupils in contrasting school settings: A qualitative study. *European Journal of Special Needs Education*, 37(3), 371–385.
- de Verdier, K., Fernell, E., & Ek, U. (2018). Challenges and successful pedagogical strategies: Experiences from six Swedish students with blindness and autism in different school settings. *Journal of Autism and Developmental Disorders*, 48, 520–532.
- Eatough, V., & Smith, J. A. (2017). Interpretative phenomenological analysis. *The Sage Handbook of Qualitative Research in Psychol*ogy, 193–209.
- Edward, G. (2015). Teachers' knowledge and perceived challenges of teaching children with autism in Tanzanian regular primary schools. *International Journal of Academic Research and Reflection*, 3(5), 36–47.
- Gajdzik, M., & Bryńska, A. (2012). Differences of cognitive-behavioural therapy in treatment of Asperger's syndrome. *Journal of Psychiatry and Clinical Psychology*, 12(1), 52.
- Gómez-Marí, I., Sanz-Cervera, P., & Tárraga-Mínguez, R. (2021). Teachers' knowledge regarding autism spectrum disorder (ASD): A systematic review. Sustainability, 13(9), 5097.
- Harris, P. (2004). Culturally competent disability support: Putting it into practice. *Multicultural Disability Advocacy Association of NSW*, 11(9), 14–17.
- Hijab, M. H. F., Khattab, S., Al Aswadi, N., Neves, J., Qaraqe, M., Othman, A., Alsulaiti, N., & Al-Thani, D. (2024). The what, where, who, why, which, and how of collaborative play involving autistic children in educational context: A contextual inquiry. *Frontiers in Education*, 9, 1273757.
- Kabunga, A., Kigongo, E., Acanga, A., Tumwesigye, R., Auma, A. G., Musinguzi, M., Kambugu, C. N., Okalo, P., Abal, J. A., & Namata, H. (2024). Qualitative study on stigma as a barrier to emergency contraceptive pill use among university students in

the Lango subregion, Uganda. British Medical Journal Open, 14(2), e079478.

- Lester, J. N., O'Reilly, M., Lester, J. N., & O'Reilly, M. (2021). Mental Health, Autism, and Issues of Inequality and Resources. *The Social, Cultural, and Political Discourses of Autism*, 95–129.
- Love, A. M. A., Findley, J. A., Ruble, L. A., & McGrew, J. H. (2020). Teacher self-efficacy for teaching students with autism spectrum disorder: Associations with stress, teacher engagement, and student IEP outcomes following COMPASS consultation. *Focus on Autism and Other Developmental Disabilities*, 35(1), 47–54.
- Martin, N. (2021). Perspectives on UK university employment from autistic researchers and lecturers. *Disability & Society*, 36(9), 1510–1531.
- Oliver-Kerrigan, K. A., Christy, D., & Stahmer, A. C. (2021). Practices and experiences of general education teachers educating students with autism. *Education and Training in Autism and Developmental Disabilities*, 56(2), 158–172.
- Ruble, L. A., Usher, E. L., & McGrew, J. H. (2011). Preliminary investigation of the sources of self-efficacy among teachers of students with autism. *Focus on Autism and Other Developmental Disabilities*, 26(2), 67–74.
- Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, 22(2), 63–75.
- Smith, J. A. (2016). Interpretative phenomenological analysis in sport and exercise: Getting at experience. *Routledge handbook of qualitative research in sport and exercise* (pp. 241–251). Routledge.
- Smith, J. A., & Fieldsend, M. (2021). Interpretative phenomenological analysis. American Psychological Association.
- Szendrey, S. (2020). National Clearinghouse on Autism evidence and practice (NCAEP): Finding the relevance to OT within a largescale systematic review. *American Journal of Occupational Therapy*, 74.
- WHO (2021). Comprehensive Mental Health Action Plan 2013–2030. https://www.who.int/publications/i/item/9789240031029
- WHO (2023). Autism: Key facts. https://www.who.int/news-room/ fact-sheets/detail/autism-spectrum-disorders
- Williams, E. I., Gleeson, K., & Jones, B. E. (2019). How pupils on the autism spectrum make sense of themselves in the context of their experiences in a mainstream school setting: A qualitative metasynthesis. *Autism*, 23(1), 8–28.
- Wood, R., & Happé, F. (2023). What are the views and experiences of autistic teachers? Findings from an online survey in the UK. *Dis-ability & Society*, 38(1), 47–72.

Zarafshan, H., Salmanian, M., Aghamohammadi, S., Mohammadi, M. R., & Mostafavi, S. A. (2017). Effectiveness of non-pharmacological interventions on stereotyped and repetitive behaviors of pre-school children with autism: A systematic review. *Basic and Clinical Neuroscience*, 8(2), 95.

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