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Editorial

CBR: A Lifeline for People Living in Poverty and Poverty-Stricken Areas

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Dear Readers,

Welcome to this new issue of the Disability, CBR and Inclusive Development Journal (DCIDJ) : a journal dedicated to Community Based Rehabilitation (CBR), development and inclusion. Attention for CBR within the work of important stakeholders that are active at the interface of the three mentioned themes seems to be minimal or even absent. That is why I, as assistant to the editor-in-chief, felt it timely to pay specific attention to the importance of CBR. In the eyes of the privileged and influential organisations, CBR may be of lesser value. However, I believe that the value of CBR cannot be underestimated in the lives of those living in poverty and in poverty-stricken areas.

Is Community Based Rehabilitation (CBR) the solution for all of the challenges faced by people with disabilities in their lives? Certainly not! Yet, one should realise that many people with disabilities live in parts of the world where life is harsh and where they are confronted with poverty and stigma, stemming either from people with disabilities themselves or from family, neighbours, or society at large. They also live in parts of their countries where services and resources are often minimal or absent. Even if formal services exist, they may be inaccessible because of high transport and service costs. For these reasons, and despite decreasing interest from international and global organisations such as the World Health Organisation (WHO), the need for comprehensive low-cost community-based services is of vital importance.

Global organisations such as the WHO have abandoned CBR, while some influential international organisations have moved from CBR into CBID, resulting in quite some confusion in the field due to change in terminology. However, in reality, CBID is often the same approach as CBR. On the other hand, it is other international organisations that have stepped into the vacuum, promoting and successfully implementing CBR not only at a local small-scale level but also in close collaboration with governments.

A useful model is, for instance, has emerged in Nepal in the past decade, where the Inspire2Care program has been implemented in close cooperation with local governments (Vaughan K et al, 2018). Pilot programs were implemented, tested, and evaluated in fifteen villages in 3 districts between 2008 and 2015. After demonstrating promising results, Inspire2Care program was scaled to the district level.

In 2019, the success of this program and the accumulated knowledge and experience formed the basis for a major new government program in Koshi Province. The lessons learned from this development are now used in scaling up the program to Karnali Province.

Another interesting development is underway in India, where the Nossal Institute for Global Health and the University of Melbourne, in collaboration with and under the leadership of the Department of People with Disability within the Ministry of Social

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Justice and Empowerment, and the Rehabilitation Council of India (RCI) have developed a 6-month Community Based Inclusive Development (CBID) course (Gale, L., Gillis, S., & Grills, N. (2021).

Through this initiative, a large number of Community-Disability Inclusion (CDI) workers have been trained to address the rehabilitation and inclusion needs of their community members with disabilities.

Based on new telehealth developments in India during the COVID-19 pandemic, the development of the Virtual Care project (Grills N, 2022) applies learnings from the role played by telehealth during the COVID-19 pandemic to inform the co-design, piloting, and evaluation of inclusive virtual healthcare and rehabilitation services (National Symposium on Disability Inclusion in Virtual Care, 2022). The project will produce a model of care to address the health and rehabilitation needs of people with disability in India.

In line with the VirtuCare initiative, the Enablement Foundation has been developing – since 2015 - the RehApp (Rehabilitation Application), a smartphone application aimed at addressing the challenges people with disabilities in low and middle-income countries face. (Trajcevska S, Guignard L, Cornielje H, 2025). The app has evolved from a simple informational resource to an interactive platform that allows for client data entry and management. It aims to enhance the competencies of rehabilitation field workers and improve service delivery, ultimately leading to better outcomes for clients.

CBR offers opportunities when it is well developed as a multi-sectoral system, set up by national governments in collaboration with civil society stakeholders. While (national) governments develop policies, it is often local governments, together with civil society, that develop the required services, interventions, and actions needed to ensure that people with disabilities, including those affected by leprosy, will optimally benefit from these arrangements. Top-down planning should go together with bottom-up and contextualised developments. The above examples from Nepal and India are encouraging and clearly show the need for and importance of CBR.

Another pragmatic approach towards the inclusion of people with disabilities is a modified CBR approach that leverages existing leprosy-specific services or infrastructure to facilitate "reverse integration," i.e., integration of people without leprosy in these programs. General CBR services could be set up around existing leprosy services. An interesting example of such a philosophy is illustrated at the Green Pastures Hospital of the International Nepal Fellowship (INF) in Nepal. Their board decided to change from specialist leprosy to general rehabilitation services, which opened up the possibility of using facilities and expertise for the rehabilitation of non-leprosy affected persons while also moving towards the reduction of stigma and prejudice against patients with leprosy. The CBR program of Partnership for Rehabilitation (PFR), which is already offering its services to people with other types of disabilities, formed a great complementary service in which referrals became well institutionalised.

Similar developments can be seen at the Marie Adelaide Leprosy Centre (MALC) in Karachi, where the focus moved toward establishing general rehabilitation services in close collaboration with the province of Sindh. This shift is part of a larger strategy to integrate leprosy control with other health initiatives and to empower communities. MALC's work now encompasses community development and rehabilitation for people with disabilities, including children with physical and neurodevelopmental challenges (Fasenau et al., 2025).

Is CBR still the solution for the needs of people with disabilities in low-and middle-income countries? The CBR approach, applied in various contexts and often in different forms and models, can be of paramount importance for promoting inclusion, realising empowerment and improvement of the quality of life for those people with disabilities and their families living in parts of the world where hardly any formal or informal

rehabilitation services do exist. Should CBR be revisited? Without doubt, CBR with its variety of applications and (new) innovations deserves a revival because so many people with disabilities are dependent on it!

The editorial board invites you to share your research with this journal. Feel free to ask us for our assistance if you would like guidance in writing meaningful publications related to research and development in the field of CBR.

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Original Research Article

Enhancing Inclusive Education for Children with Dysgraphia: Assessing the Knowledge of Basic School Teachers in the Nkwanta South Municipality in Ghana

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ABSTRACT

Introduction: Children with learning disabilities experience difficulty in acquiring basic academic competencies compared to those without disability, and dysgraphia is not excluded.

Aim: This study assesses the knowledge of teachers on children with dysgraphia in Ghana.

Methods: The study adopted a cross-sectional study design with quantitative approach. A stratified probability sampling technique was used to select 98 teachers. The study employed a structured questionnaire to interview respondents in eight (8) communities. Data was analyzed using the Statistical Package for Social Sciences (SPSS) version 17.

Results: The study found that 94% of basic schoolteachers possess moderate knowledge of dysgraphia. Again, of the 98 respondents, the majority gave 'cannot tell /neutral' responses on knowledge of characteristics of dysgraphia: awkward pen or pencil grip (65/98 respondents), spelling errors (74/98), difficulty getting thoughts on paper (53/98), and taking longer to complete a written sentence (68/98). However, respondents have good knowledge of dysgraphia children producing bad writing (89/98), unfinished words (86/98), a mixture of upper- and lower-case letters (79/98), irregular spacing of words or letters (82/98), and writing that is either too small or too large (56/98).

Conclusion: Few Teachers have adequate knowledge of the characteristics of children with dysgraphia.

Limitations: The study would have been interesting if children with dysgraphia were directly involved, where they would be asked to write sentences, and a video version was taken and published with this manuscript.

Keywords: Enhancing; Inclusive Education; Children with Dysgraphia; Assessing Knowledge of Basic School Teachers; Ghana

INTRODUCTION

While the challenges of inclusive education for children with disabilities are a global issue, resource constraints make it more complicated in the Global South. The acknowledgement of the exclusion has been accompanied by advocacy for the elimination of the inequities (Lebona, 2013; Rachamalla & Rafi, 2016; Dayan, 2017; Hasan, Halder, and Debnath, 2018). In the case of Ghana, there have been some gains in terms of the formulation of inclusive education policy (Ametepee & Anastasiou, 2015; Butakor, Amapdu & Suleiman, 2018). However, inclusive education interventions have mainly targeted the major groups within the disabled population, notably, the visually impaired, the deaf and hard of hearing, those with intellectual disabilities, and the physically disabled (Opoku, et al., 2015). Thus, so far, the inclusive education needs of the minority groups of children with learning disabilities, such as children with dysgraphia, have not received adequate attention (Special Attention Project, 2011). Dysgraphia is conceived as a writing disorder or a deviation from the standard mode of writing in each context (Chung and Patel, 2015). This may manifest in a slow rate of writing, spelling difficulties, and problems with syntax and composition. Teachers are one of the immediate relations who are connected with such children, especially at the basic school level. This study, therefore, sought to examine the knowledge and competencies of basic schoolteachers in meeting the inclusive education needs of children with dysgraphia in the Nkwanta South Municipality in Ghana. Few studies have been done on assessing teachers' competence and knowledge of children with learning disabilities such as dysgraphia.

A study conducted in Kenya by Madrine (2015) found that the majority of the teachers did not have adequate knowledge of teaching learners with dysgraphia. The study further reported that 75% of teachers strongly agreed that teachers required training on 'special needs education' to enable them to identify learners with dysgraphia and give them support.

A similar study conducted in India reported that most of the teachers (45%) had moderate-level knowledge of learning disability, and 21.5% had an inadequate knowledge level of learning disability, while 33.5% of schoolteachers had adequate knowledge of learning disability (Madhamani & Joseph, 2021). The study further showed that 73% of the teachers admitted they had seen children with symptoms of learning disabilities. On the assessment of curing learning disability, 88% of the teachers mentioned that learning disability is curable.

Teachers' knowledge on the accessibility of inclusive educational systems, the impact of sensory impairments on learning, attitudinal barriers, inclusive pedagogies, assessment techniques for identification of learning disabilities, and inclusive education policy dynamics is key. For instance, studies on attitudinal barriers and inclusive education for children with learning disabilities have shown that the actions and reactions of teachers remain crucial to their academic performance (Shari & Vranda, 2016). Boer, Pijl & Minnaert (2010) have made a distinction between the cognitive, affective, and behavioural components of teachers' attitudes, which borders on teachers' beliefs or knowledge about educating children with learning disabilities, their emotional reactions toward children with learning disabilities, and their physical reactions.

In relation to the above assertion, Jenson (2018) mentioned that these attitudes are shaped by several contextual factors, including child-related, teacher-related, educational, and environmental-related variables. Furthering this, Beyene and Tizazu (2010) observed that teacher-related variables, such as gender, age, level of experience, duration of contact with children with learning disabilities, training, and educational background, have significant implications in the lives of children with dysgraphia.

Research outcomes have shown that with competent teachers, appropriate support services could improve the plight of children with dysgraphia. Crouch and Jakubecy

(2007) and Khan et al. (2017), for example, observed that the application of appropriate remediation strategies can improve muscle strength, control of fine motor skills, and hand and eye coordination, thereby improving handwriting skills. These remediation techniques may include, but are not limited to, playing with clay to develop fine motor control and strengthen hand muscle; following mazes or dots to practice hand and eye coordination; tracing letters or pictures to develop hand and eye coordination; stretching rubber bands; shaking hands and fingers rapidly; and opening and closing fists rapidly. Again, the above practice, coupled with accommodating strategies such as additional time allowance, reduction in the volume and nature of written assignments, innovative assessment criteria for certain assignments, and the provision of relevant assistive technology devices, could improve the academic performance of children with dysgraphia. These are useful when teachers have adequate basic knowledge of how to handle children with dysgraphia. The outcome of this study may inform education and health policy for basic school children with learning disabilities such as dysgraphia.

METHODS

Study Setting and Approach

The study setting for the research was the Nkwanta South Municipality. It was conducted between 2019 and 2020. It adopted a quantitative study involving teachers at the basic school level.

Profile of the Study Area

The study was conducted in eight communities in the Nkwanta South Municipality of Ghana between 2019 and 2020. These communities were Bonakye North, Bonakye South, Brewaniase, Kechebi, Nkwanta East, Nkwanta West, Salifu, and Tutukpene. The Municipality is between latitudes 7′ 30o and 8′ 45o North and longitude 0′10o and 0′45o East and bounded to the north by Nkwanta North District, to the south by the Kadjebi District, to the east by the Republic of Togo, and to the west by Krachi East Municipal. The Municipality has a land surface area of 2,733km2 (14.7% of the total land area of the region), which is the largest in the Volta Region. The total population of the Municipality as of 2020, as projected, is 149,296 with an estimated population growth rate of 2.5% (based on the Regional and National growth rate as released by the Ghana Statistical Service (GSS). This consists of 49.5% males and 50.5% females. The major ethnic groups in the Municipality are the Ntrubo, the Adele, the Atwode, the Challa, and the Konkomba. The rest are the Ewe, the Akan, the Kotokoli, and the Basare (Ghana Statistical Service, 2010). The study found that about 2.0 percent of the municipality's total population has one form of disability or the other. The proportion of males with a disability is slightly higher (2.2%) than females (1.8%). The types of disability in the district include sight, hearing, speech, physical, intellectual, and emotional. Persons with sight disability recorded the highest of 24.9 percent, followed by physical disability (24.3%). About 1.4 percent of the population in urban localities has a disability. There are more males with sight disability than females in both the urban and rural localities. Again, of the population with disabilities, 75.6 percent have never been to school. Agriculture, hunting, and forestry at the subsistence level are the main economic activities in the municipality, with minimal activities in secondary and tertiary sectors (Figures 1 and 2).

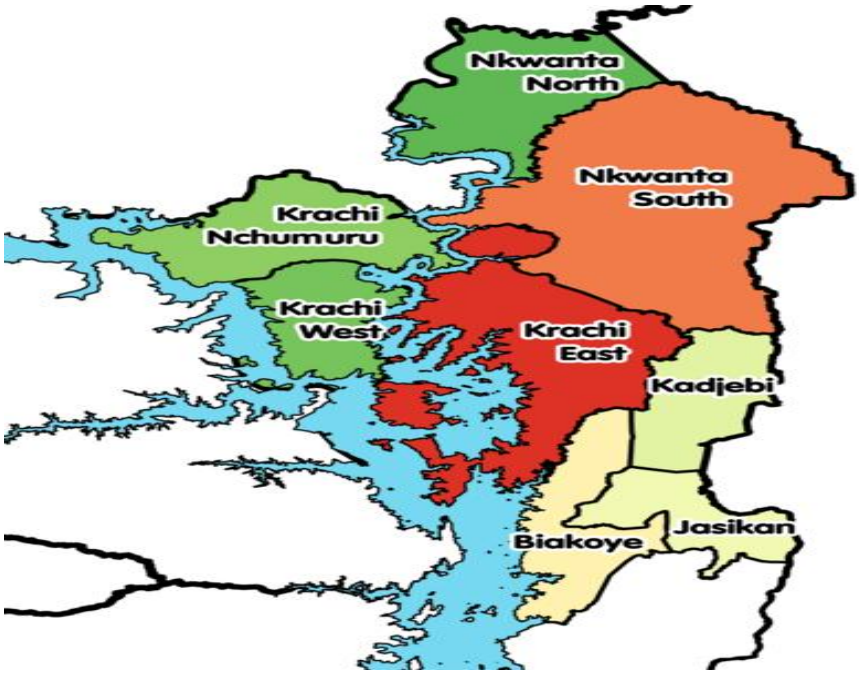


Figure 1: Map of Oti Region, where Nkwanta South can be located: 2018

Figure 2: Map of Nkwanta South Municipal, 2018

Target Population

The study specifically targeted school teachers within the 61 public schools, who taught at the basic school level in the Municipality.

Inclusion and Exclusion Criteria

Specifically, basic school teachers with two or more years of experience at the kindergarten, lower, and upper primary levels were considered for the study. This choice was based on the premise that such a category of teachers has had an enormous level of experience with children. The aforementioned category of teachers was also considered for the study because dysgraphia is a neuro-developmental condition, which occurs mostly among pre-school and primary school children (Chung and Patel, 2015). All other manners of teachers, characteristically different from the above prescription, were excluded from the study.

Sampling and Sample Size

Data obtained from the Nkwanta South Municipal Directorate of Education indicated that there were 130 teachers at the preschool and primary levels in the 8 communities selected for the study. Out of this number, 98 teachers representing 75% were selected through stratified probability sampling. Below is the statistical formula for the sample size:

$$n = \frac{N}{1+ N\,(e^2)}$$

Where n =sample size, N = population, and e = confidence level (95% confidence level). The choice of stratified random sampling was based on the necessity for teachers in each of the 8 educational circuits in the municipality to be represented in the study.

Data Tools

Data were obtained through the administration of closed-ended questions. The questions were designed based on the objectives of the study and were grouped under four (4) main sections: demographic features of the respondents, teachers' knowledge of dysgraphia identification, teachers' knowledge of support services, and perceived barriers to teaching children with dysgraphia. The data collection tools were coded to ensure anonymity.

Data Collection Procedure

After explaining the purpose of the study to the participants and receiving their consent, the researchers administered the questionnaires face-to-face with the respondents. This was to explain the questions well to the teachers for their decision on optional responses to choose from, and also to safeguard against double imputation of responses in the Google form. The respondents were also educated on the risk of contamination in research. They were therefore advised not to discuss the questions with their colleagues who were yet to be interviewed.

Data Management and Analysis

The data was cleaned and inputted in Statistical Package for Social Sciences (SPSS) version 17. The data was checked and re-checked for accuracy and analyze decriptively in the form of frequency tables and graphical representations.

Ethical Considerations

Ethical clearance was sought from the Kwame Nkrumah University of Science and Technology office of the Committee on Human Research, Publication, and Ethics, prior to the beginning of the study. Additionally, by the requirements for conducting research in Ghanaian public schools, permission was also sought from the Nkwanta South Municipal Directorate for Education, as well as the Heads of the individual Schools from which the Teachers were selected. The teachers who were the participants were given a participant information leaflet and an informed consent form to read and sign, respectively. The purpose of the research was, therefore, explained to the teachers. The study followed all the ethical considerations in relation to respondent selection, interview process, right of withdrawal during the interview process, confidentiality, data management, and data analysis protocols.

RESULTS

Study Locations and Number of Respondents Selected

The study was conducted in eight (8) communities in the Nkwanta North South District in the Volta Region. Figure 3 presents the number of respondents selected from each community, with Nkwanta East recording the highest number.

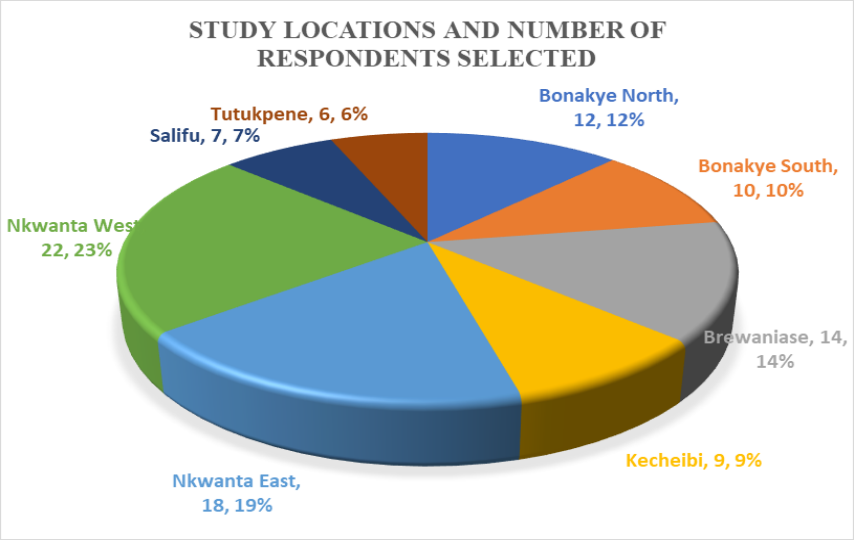


Figure 3: Study Locations and Number of Respondents Selected.

Socio-demographic characteristics of Study participants

The socio-demographic characteristics of respondents were also noted and reported. Among these are age, gender, professional qualifications, teaching experience, and level of teaching. The study noted that males' representation dominated (57.1%). Also, 51% of the teachers were between 30-39 years of age. Moreover, 52% of the teachers held diploma certificates, and only about 7.1% had training in Special Education. Again, 37.6% of the teachers had 7-9 years of teaching experience, and 52 % of the teachers were handling upper primary, as shown in Table 1.

Table 1: Socio-demographic characteristics of respondents

Variable (Category)	Frequency	%
Gender		
Male	56	57.1
Female	42	42.9
Age		
20-29	37	37.8
30-39	50	51.0
40-49	10	10.2
50+	1	1.0
Professional Qualification		
Certificate	1	1.0
Diploma	51	52.0
Bachelor's degree	33	33.7
Degree in Special Educ.	7	7.1
Masters	4	4.1
Others	2	2.0
Teaching Experience		
1-3 years	16	16.3
4-6 years	31	31.6
7-9 years	37	37.6
10 years and above	14	14.3
Level of Teaching		
Kindergarten	4	4.1
Lower Primary	43	43.9
Upper Primary	51	52.0

Teachers' Knowledge of Dysgraphia

The study researched into the knowledge of teachers about dysgraphia. It was found that only 25.4% of teachers knew that children with dysgraphia have extreme spelling errors as compared to the expectations for their grade level. Again, the study outcome revealed that only 33.7% of teachers knew that children with dysgraphia had an awkward grip of a pen or pencil. However, 86.6% and 94% of the teachers knew that children with dysgraphia write letters or words with irregular spacing and have bad writing skills, respectively, as shown in Figure 4.

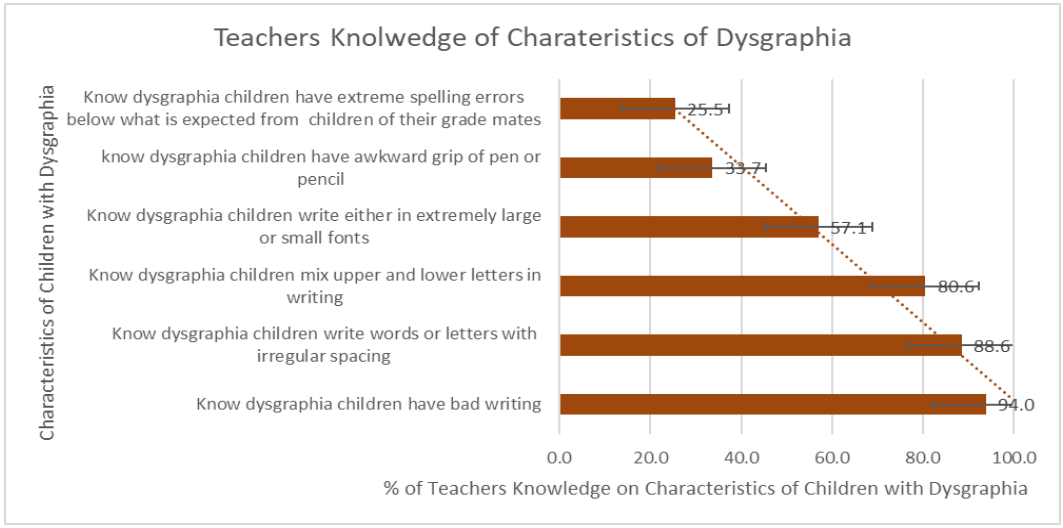


Figure 4: Knowledge of Teachers on Characteristics of Dysgraphia

Teachers' Knowledge of Sources of Information on Dysgraphia

The findings showed that the internet (42.3%) was the most widely used medium for accessing information on dysgraphia, as represented in Figure 5.

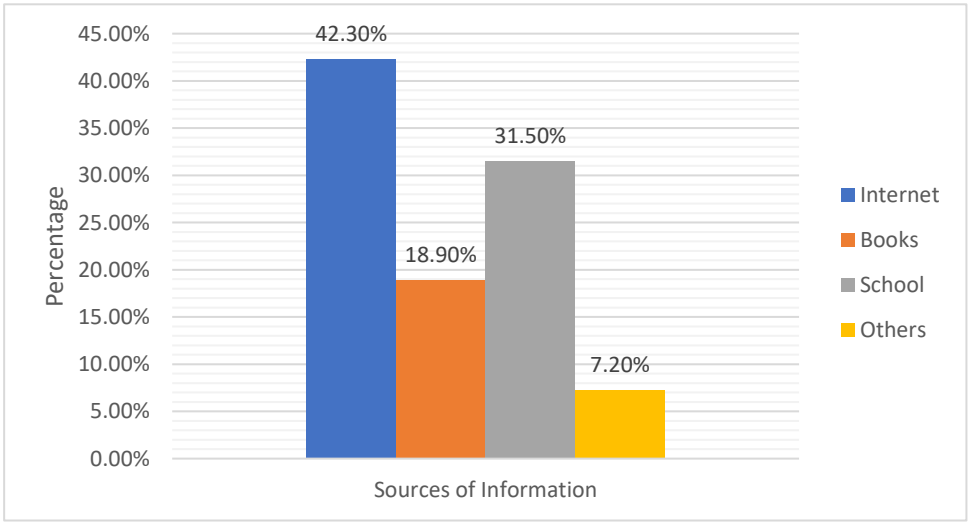
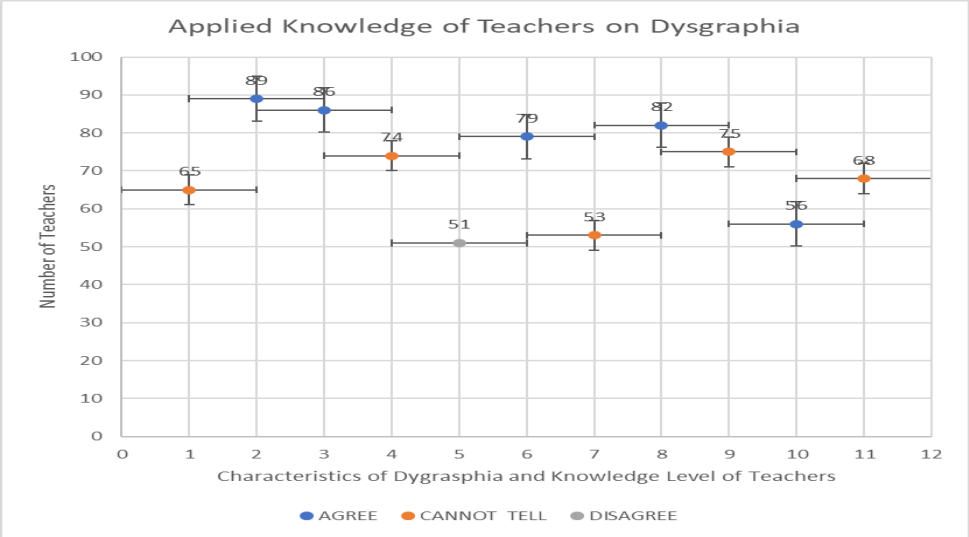


Figure 5: Teachers Knowledge of Sources of Information on Dysgraphia.

Applied Knowledge Teachers on Dysgraphia

Using the highest response rate among three variables (Agree, Cannot Tell / Neutral, Disagree) on the characteristics of dysgraphia represented in the graph (Figure 6) and in Table 2 with serial numbers (1-11), the study found that 89 teachers with knowledge ap-

plication agreed that children with dysgraphia produce generally illegible writings. Similarly, 86 teachers also agreed that children with dysgraphia write with unfinished words. Most teachers, concerning serial numbers 1, 4, 7, 9 and 11 (dysgraphia characteristics), could not make their knowledge known (cannot tell /neutral responses) as shown in Figure 6 or Table 2. In all, 51 teachers, however, disagreed that children with dysgraphia write without punctuation, capitalization, and paragraph indentation.



Notes: 1= awkward pen or pencil grip, 2 = illegible writings, 3 = unfinished words, 4 = significant spelling errors on grade level words, 5 = without punctuation, capitalization, and paragraph indentation, 6 = mixture of upper- and lower-case letters, 7 = difficulty getting thoughts onto paper, 8 = words or letters with irregular spacing, 9= hand discomfort when writing, 10= small or too large for reading, 11= take a longer time to complete a sentence when writing

Table 2: Absolute Representation of Characteristics of Dysgraphia above.

Serial Numbers Representing Characteristics of Dysgraphia	Dysgraphia Characteristics	Agree	Cannot Tell / Neutral	Disagree
1	Dysgraphia is characterized by an awkward pen or pencil grip	-	65	-
2	Children with dysgraphia produce illegible writing	89	-	-
3	Children with dysgraphia write with unfinished words	86	-	-
4	A child with dysgraphia makes a number of significant spelling errors on grade-level words	-	74	-
5	A child with dysgraphia writes without punctuation, capitalization, and paragraph indentation	-	-	51
6	A child with dysgraphia writes with a mixture of upper- and lower-case letters	79	-	-
7	A child with dysgraphia has difficulty getting thoughts onto paper	-	53	-
8	A child with dysgraphia writes words or letters with irregular spacing	82	-	-
9	A child with dysgraphia complains about hand discomfort when writing	-	75	-
10	Children with dysgraphia write too small or too large for reading	56	-	-
11	Children with dysgraphia take a longer time to complete a sentence when writing	-	68	-

Relationship between the level of professional qualification and knowledge of dysgraphia

As indicated in Table 3, there was a link between the level of qualification of the teachers and their knowledge about dysgraphia. Teachers with a master's degree and a bachelor's degree in special education tend to have higher knowledge about dysgraphia than those with lower qualifications (certificate and diploma in education).

Table 3: Professional Qualification of Respondents and their Knowledge about Dysgraphia

Knowledge about characteristics of children with dysgraphia	Ratings	Professional qualification					
		Certificate	Diploma	Bachelor's degree	Degree in special education.	Master's degree	Others
Awkward pen or pencil grip (n=98)	Agree	-	2(3.9%)	9(27.3%)	7(100%)	3(75%)	-
	Neutral	1(100%)	40(78.4%)	21(63.6%)	-	1(25%)	2(100%)
	Disagree	-	9(17.7%)	3(9.1%)	-	-	-
Significant spelling errors on grade level words (n=98)	Agree	-	-	10 30.3%)	7(100%)	4(100%)	-
	Neutral	-	49(96.1%)	23(69.7%)	-	-	1(50%)
	Disagree	1(100%)	2(3.9%)	-	-	-	1(50%)
Write without punctuation, capitalization, and paragraph indentation	Agree	-	9(17.6%)	15(45.5%)	7(100%)	4(100%)	-
	Neutral	1(100%)	6(11.8%)	3(9.1%)	-	-	2(100%)
	Disagree	-	36(70.6%)	15(45.5%)	-	-	-
Difficulty getting thoughts onto paper	Agree	-	14(27.5%)	20(60.6%)	7(100%)	2(50%)	-
	Neutral	1(100%)	35(68.6%)	13(39.4%)	-	2(50%)	2(100%)
	Disagree	-	2(3.9%)	-	-	-	-
Complaint about hand discomfort when writing	Agree	-	7(30.4%)	10(30.3%)	5(71.4%)	1(25%)	-
	Neutral	1(100%)	44(58.7%)	23(69.7%)	2(28.6%)	3(75%)	2(100%)
	Disagree	-	-	-	-	-	-
Take a longer time to complete writing a sentence	Agree	-	8(15.7%)	12(36.4%)	7(100%)	3(75%)	-
	Neutral	1(100%)	43(84.3%)	21(63.6%)	-	1(25%)	2(100%)
	Disagree	-	-	-	-	-	-

DISCUSSION

Males constituted the majority of the study respondents (57.1%), though the respondents were randomly selected. The selection outcomes justify the assertion that female teachers dominate the school staff list in urban as opposed to rural areas. Again, it was noted that bachelor's degree holders accounted for most of the respondents, as opposed to only 7.1% representing Special Education certificate holders. This may imply that not many teachers have been trained in Special Education in these communities. The study also found that the majority (94%) of the teachers knew dysgraphia. This is consistent with the study outcome of Madhamani & Joseph (2021), who reported that 45% of teachers

have adequate knowledge of learning disabilities, with 73% of the teachers admitting they have seen children with symptoms of learning disabilities. This, in general, has an implication for the management of children with learning disabilities, including dysgraphia, in the classroom. The study elicited from the teachers how they got information on dysgraphia. It turned out that 42.30% of the teachers get information from the internet, while 31.5% claim their school setting gave them much information. This may be related to few teachers are trained in Special Education.

Moreover, 89 teachers with the knowledge application assessment agreed that children with dysgraphia produce illegible writing. This is consistent with the study results of Chung, et al., (2020), who reported that, despite exposure to adequate instruction, children with dysgraphia demonstrate writing ability discordant with their cognitive level and age. Similarly, 86 teachers also agreed that children with dysgraphia write with unfinished words. This corroborates the findings of Csillag (2015), who reported in a Special Education course that children with dysgraphia are unable to complete most of their writing tasks. Most teachers, in relation to serial numbers 1, 4, 7, 9, and 11 (dysgraphia characteristics), did not make their knowledge known (cannot /neutral tell responses). This outcome is similar to the study finding from Kenya, where most teachers did not have training in special education and faced difficulties managing children with learning disabilities (Madrine, 2015). This assertion also confirms the outcome of a study on pre-experimental awareness conducted among 40 primary school teachers in Chennai, and evidence shows that 90% of the primary school teachers had inadequate awareness, and 10% had a moderate level of awareness on learning disabilities (Ambika, 2019).

Relating to sources of information, the study found that 42.3% of the teachers obtained information through the internet. Even though the internet may provide a reliable source of information, it was expected that teachers would have been equipped with knowledge about such a learning disability through formal training, by which they obtained their certificates. These findings differ from the outcome of a related study by Acheampong et al. (2019), which showed that 62% of teachers teaching children with dyslexia in the Asokwa Municipality of the Ashanti Region obtained their knowledge on the learning disability through formal training.

The current study also found that teachers with master's and bachelor's degrees in special education tend to have higher knowledge about dysgraphia than those with lower qualifications (certificate and diploma in education). This outcome may obviously be due to their training curriculum, which may not be available to non-special education teachers. Most of the study findings implied that, majority of teachers have limited knowledge of the characteristics of children with dysgraphia.

CONCLUSIONS

The study sought to assess the knowledge of basic school teachers in identifying children with dysgraphia in the Nkwanta South Municipality in Ghana. The study concludes that few teachers have adequate knowledge about the characteristics of children with dysgraphia, which is a reflection of their 'cannot tell/neutral' responses illustrated in Figure 6 or Table 2 with serial numbers 1, 4, 7, 9, and 11 (dysgraphia characteristics). However, the study noted that the majority of the teachers superficially know about the existence of dysgraphia as a learning disability. Again, though few teachers had information on dysgraphia by virtue of their special training, the majority had information on dysgraphia from the internet. Finally, the study concluded that the nature of training and certificates held by teachers has implications for their knowledge of learning disabilities such as dysgraphia.

RECOMMENDATIONS

- The study recommends that some special education topics should be included in all levels of educational curriculum to give insight to teachers who may encounter children with dysgraphia in their class.
- Teachers and School Health Coordinators should conduct regular screening to identify children with learning disabilities on time for appropriate medical and training needs.
- Ghana Education Services, in collaboration with other agencies, such as the Ministry of Health, NGOs, among others, should jointly organize in-service training on learning disabilities for teachers.

Implications for Disability Studies

- Dysgraphia in children's talents may be lost if not managed.
- Dysgraphia in children may lack logical thought if not managed.
- Sense of measurement may also be a problem for children with dysgraphia.
- The need for sustained therapies is key in correcting children with dysgraphia.

Limitations

Children with dysgraphia were not directly involved in the study. It would have presented a good perspective if some of them were made to write sentences, and a photograph or video taken and published with this manuscript.

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Availability of data and materials

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Authors' contributions

IO led the background development, literature review, and proofreading of the paper. **PEA** developed the methodology and was involved in fieldwork. **JKB** involved a literature review and data analysis. All authors were involved in writing the report on this paper. All authors therefore read and approved the final manuscript.

Consent for publication

All authors have fully consented to this paper being published.

Competing interests

The authors declare that they have no competing interests.

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Original Research Article

"I will die before God wants me to." Understanding factors that affect older adults' attendance of public healthcare rehabilitation services: An explorative study in Gauteng, South Africa

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ABSTRACT

Aim: Healthcare facilities are valued out-of-home places older adults' visit and a key constituent of Healthy Ageing. The study explored factors that affected older adults' rehabilitation attendance in Gauteng's public healthcare services, strategies to mitigate the barriers they confronted, and suggestions for improving their experiences.

Methods: An exploratory concurrent mixed methods design saw 84 multi-professional rehabilitation clinicians, working in public healthcare facilities, and interview with 393 community dwelling older adults in their rehabilitation practices. A semi-structured interview guide was used. Clinicians kept field notes and participated in discussion groups. Qualitative data were predominant and analysed through inductive content analysis. Quantitative data ware analysed using descriptive statistics.

Results: Transport and fiscal poverty were predominant factors affecting older adult attendance of rehabilitation services in urban low-income communities. These affected compliance with attendance and effort exertion during rehabilitation. The perceptions and personal experiences of older adults when attending rehabilitation, along with their preference to attend out-of-home places that have multiple purposes and where they can be of use to their communities, were also factors that should be taken into consideration.

Conclusion: Older adults' living in South African urban areas, access to public healthcare is intrinsically tied to the communities that they live in. Factors outside of and inside healthcare affected their rehabilitation attendance. Cognisance of and insight into the complex and multifactorial nature of these factors is necessary for rehabilitation service providers to become part of strategies that address older adults' access to public healthcare rehabilitation. Actuating and strengthening resources within families and communities, fortifying the dignity of older service users, and incorporating the principles of community-oriented rehabilitation services are suggested as starting points.

Implications for rehabilitation: This article provides evidence towards understanding, insight, and knowledge of the realities that South African urban older adults, from low-resourced communities, face to get to rehabilitation. Attending rehabilitation appointments is affected by multiple factors such as transport poverty, limited funds, crime, public humiliation, personal health, and experiences at medical facilities. These findings

contribute to the WHO's Decade of Healthy Ageing agenda and could be taken into consideration by national and local rehabilitation service providers and related stakeholders.

Limitations: Due to the uniqueness of South African settings and the use of a convenience sample, external validity is limited. The authors suggest that the results be seen as transferable only to other urbanised areas within South Africa. Interviews were held with older adults who arrived at healthcare facilities. The views and realities of those that cannot make it to healthcare facilities might add additional evidence to the problem investigated. Within South Africa (Ramafikeng & Marshall, 2023), and in other African countries (Kori-Siakpere et al., 2024), differences in age, language, education, and ethnicity affect communication and interaction. In this study, there were differences in age, language, education, and ethnicity between clinicians and the older adults they were interviewing. During discussion groups after the interviews, clinicians reported experiencing these differences as a barrier when conducting the interviews. This could have affected the quality and content of the interviews.

Keywords: patient-centeredness, rehabilitation experience, community-oriented rehabilitation, healthy ageing, functional ability, good health and wellbeing

INTRODUCTION

South Africa faces imminent healthcare reform, most prominently with the rollout of the National Health System (NHS) (National Department of Health, 2017). This is in line with the principles of universal health coverage (UHC) (World Health Organization, 2018) and the Healthy Ageing model(WHO, 2019) endorsed by the World Health Organisation (WHO). In their editorial, Evans et al. (2013) expanded on the ideals of UHC to include universal access and argue that UHC is not possible without universal access. Applying the principles of universal access to healthcare, they reason that access to healthcare includes the availability, quality, and location of health services., An editorial by Cornielje (2022) applies this to rehabilitation and calls for the *emancipation* of policy makers from their lack of insight and understanding of the realities and experiences of rehabilitation service users.

There is ample evidence that shows attending healthcare was a valued out-of-home place for older adults (Naidoo & Van Wyk, 2019) and that there were multiple and complex factors that affected their ability to do so (Margot-Cattin et al., 2019). An urban data framework for assessing equity in Canadian cities (Mayaud et al., 2019) showed that people living in low-income neighbourhoods were more likely to be excluded from healthcare compared to their counterparts in high-income neighbourhoods. In Uganda, a qualitative study (N=41) (Tuller et al., 2010) found that lack of money for transportation was a key factor in missed medical appointments as participants struggled to afford transport costs in addition to basic necessities such as food, housing, and school fees. A literature review of barriers to healthcare for persons with disabilities in developing countries (Baart & Taaka, 2017) reiterates this, indicating barriers both outside and inside/within healthcare systems. Focusing on access to rehabilitation for persons with disabilities in low and middle-income countries, a systematic review (Bright et al., 2018) showed that access to rehabilitation is complex. Describing factors that affected non-attendance of rehabilitation appointments, a South African retrospective, cross-sectional study (De Klerk et al., 2019) calls for further context-specific research to address the complexity of rehabilitation attendance. A South African case study (Ned et al., 2017) concluded that

rehabilitation service providers need to understand the daily struggles and barriers faced by persons with disabilities.

Although older adults are often seen as a group with special needs and frequent users of rehabilitation services, their experiences cannot be directly equated with those of persons with disabilities. Focus groups conducted with South African urban community-dwelling older adults (N=64) showed that older adults' complex health needs cannot be adequately addressed by a process-driven approach to care (Kelly et al., 2019). A South African qualitative explorative study (N=28) showed that older adults using community public health centers were distressed by long waiting times, felt they were looked upon as diseases to be treated, and that health providers lacked compassion (Naidoo & Van Wyk, 2019). A population-based survey (N=2352) explored older adults' opinions of South African healthcare responsiveness and identified prompt attention, autonomy, communication, and access to care as priority areas that needed improvement (Peltzer & Phaswana-Mafuya, 2012). This article explores factors that affected older adults' attendance at rehabilitation in Gauteng's public healthcare services, strategies used to mitigate the barriers they confronted, and suggestions made for improving their experiences.

METHODS

Research Context

The research project was undertaken in Gauteng, South Africa's most urbanised and densely populated province. The sites for data collection were public healthcare facilities that offered rehabilitation services. These were in urban areas, townships, and informal settlements where most inhabitants do not have health insurance and thus utilise public health care services. The research took place at eight such facilities. The decision to recruit older adults at these venues was made as they were strategically situated and offered proficient access to the research population.

Research Team

The research team comprised the authors. All rehabilitation clinicians working in public healthcare in Gauteng Province's Department of Health (N=193) were invited to volunteer for the study. They were contacted electronically, and further awareness of the research was created through presentations at public healthcare forums. In addition, those who volunteered were encouraged to alert and invite colleagues. Volunteering rehabilitation clinicians (N=125) attended an orientation and training workshop held at their places of work. At these sessions, they were provided with research kits, oriented in terms of the ethical and methodological principles of the research, and familiarised with the interview form. The principles and practice of semi-structured interviewing, keeping of field notes, professional reflection, debriefing, and taking part in audiotaped group discussions were reviewed. The first author kept regular contact with participating rehabilitation clinicians, thus coordinating data collection throughout the research process.

Research Design, Recruitment, and Sampling

A mixed-methods study using a concurrent embedded research design was conducted. Rehabilitation clinicians recruited older adult participants when they visited public healthcare rehabilitation facilities as outpatients. Only community-dwelling adults over the age of 65, who lived in low-resource urban communities and utilised public healthcare clinics that have established rehabilitation services, were recruited. Such participants came to the healthcare facilities accompanied or unaccompanied, and they gave verbal consent to be interviewed. Each rehabilitation clinician was asked to recruit as many participants as possible; the numbers they recruited ranged from one to 12, with a median of five participants per rehabilitation clinician, thus producing a convenience

sample of 393 older adults. One interview was done per older adult, and this took place in rehabilitation treatment areas.

Data Collection

Data collection involved data source triangulation to increase the scientific rigour of the study. The interview guide was developed by the authors and piloted in February 2019. The pilot was done with a church group of older adults in Johannesburg CBD who fitted the research sample criteria. The focus was to have a culturally sensitive method of data collection for the multi-ethnic participant sample, acknowledging the importance of oral traditions in an African context (Tuwe, 2016). It captured both qualitative and quantitative data. The interviews with the older adults were done between 1 June and 14 September 2018.

Interviews were conducted by rehabilitation clinicians using a 27-item semi-structured interview guide. The interviews were captured in handwriting on paper-based interview guides, as clinicians did not have equal access to other forms of data capturing. Rehabilitation clinicians also kept field notes during and directly after the interviews, to capture insights and reflections they deemed noteworthy as prompted by the interview guide. Concluding the data collection stage, participating rehabilitation clinicians took part in audiotaped group discussions facilitated by the principal researcher and explored thoughts and insights gained to complement and enrich the findings.

The first part of the interview guide captured bio- and demographical information: Participants' age, gender, citizenship, the location of their traditional or ancestral home, the languages they spoke, the type of house they lived in, including the number of rooms and the number of occupants, the amenities they had access to, and whether they were homeowners. Participants were asked about their health. They were asked to name health conditions they experienced (open question) and the extent to which these impacted their ability to leave the place where they stay. Participants rated their functional abilities on a 3-point scale in the domains of mobility, personal care, domestic activities, pain/discomfort, and anxiety/depression. Their socio-economic situation was captured by asking about their highest level of education, working status, the type of income received (salary, pension, other), and how many people they supported with their income.

The second part of the interview guide focused on meaningful out-of-home activities and places. Participants named the places they go to, how they get there, how often they go, and why it is important to them. They were asked if there were places they found difficult or were unable to go to, and to explain the reasons for and repercussions of this. The third part of the interview guide captured information on participants' community mobility needs and realities. They were asked to give suggestions on what would improve their access to valued out-of-home places and community mobility.

Older adults were not remunerated and incurred no cost as they were interviewed at the healthcare facilities that they visited for scheduled rehabilitation services. Concluding the data collection stage, the principal researcher held one-hour debriefings and audiotaped discussion groups at clinicians' places of work in October and November 2018. In 2019, results were analysed, summarised, and disseminated to all participating rehabilitation clinicians and to rehabilitation services management in the head office of Gauteng Health. This was done in the form of emails and oral presentations at staff meetings and stakeholder forums. A report was sent to the Gauteng province's Head of Government Office.

Data Analysis

The qualitative data collection approach was exploratory and descriptive, with quantitative data complementing and confirming the qualitative findings. Descriptive statistics were used for analysis of quantitative data, and inductive content analysis for

qualitative data. The first author analysed the data, and with all authors present, census meetings were held to discuss the final outcome.

Data analysis saw interviews, field notes, and transcribed audio recordings, captured on Microsoft Excel and Word. A fully integrated approach (Cresswell, 2013) was used in the analysis of results, which meant that qualitative and quantitative data were integrated at the data collection, data analysis, and interpretation stages. Data analysis and interpretation were not linear. Descriptive quantitative analysis was done of biographical data. Inductive content analysis was done to identify categories. Thematic analysis of barriers that affected participants' attendance was done. Quantitative data were analysed using descriptive statistics. The qualitative data were imported into WeftQDA (qualitative data analysis software) and analysed through inductive content analysis.

Trustworthiness and Rigor

Face validity was addressed by designing a questionnaire specifically for the research population and context using the researchers' experience of older adults with limited income. A pilot study improved the content validity of the interview guide. This took the form of the *think-aloud method* (Charters, 2003) with four community-dwelling urban older adults who were members of a church in a low socio-economic area of Gauteng. Items shown to be misunderstood were modified in and the interview guide was shortened. Inter-rater reliability was addressed when the principal researcher provided the same training on data collection techniques to all rehabilitation clinicians. The main strategies for establishing the trustworthiness of qualitative data involved drawing on a variety of data sources (Enworo, 2023).

Ethical Considerations

Formal ethical approval was obtained from Stellenbosch University's Human Research Ethics Committee (Ref No N18/01/003) and the Gauteng Healthcare's Research Committee (DRC Ref 2018-03-008), prior to registration on the South African National Health Research Database (GP201802 022). Volunteering rehabilitation clinicians provided written consent after orientation to the research and had had the opportunity to question and confirm their understanding of their role in the research. Rehabilitation clinicians introduced the research verbally to older adults and informed them of their right to decline participation or withdraw with no consequences to their right to healthcare services; in addition, they were supplied with an information sheet of the research to take home. Informed consent was negotiated before data collection commenced. The rehabilitation clinicians numbered the interview sheets, and no demographics that could lead to the identification of the older adults were captured. Confidentiality of older adults and clinicians' contributions was maintained throughout the study.

RESULTS

Of the 193 total population rehabilitation clinicians in Gauteng's public Healthcare in 2018, 65% (n=125) volunteered and were trained and equipped, and 67% (n=84) of the volunteers complied with all aspects of the project by conducting interviews with older adults, keeping field notes, and taking part in debriefing and discussion groups. The reason for attrition provided was predominantly work pressure. The professional breakdown of the 84 clinicians was 45 Occupational Therapists and Technicians, 25 Physiotherapists and Assistants, and 11 dually practicing audiologists and speech-language therapists.

Demographic Information of the interviewed Older Adults

Table 1 shows a bio- and demographic profile of the 393 older adults who were interviewed. Most participants were female and lived with immediate or extended family, in brick houses with indoor access to electricity and water. Despite basic levels of

education, the majority were polyglots, with English the most spoken language, followed by two indigenous languages, Zulu and Afrikaans. Most of South Africa's official languages were spoken in addition to languages spoken in neighbouring countries, signifying the cultural diversity often found in urban areas. Those who qualified were financially dependent on the non-contributory governmental old age pension and living on the equivalent of 4 US dollars a day, which they shared with an average of two family members and/or friends.

Table 1: Bio- and demographic profiles of interviewed older adults

Profile of Interviewed Older Adults	
Gender	73% females (n=290) 27% males (n=103)
Age	The average age was 72 years old (Range 65 – 98)
Language proficiency	87% of participants were bilingual, and 60% multilingual English (n=252) was the most spoken language, followed by Zulu (n=196) and Afrikaans (n=196) Most of the official SA languages were recorded to be spoken, as well as other African languages and Portuguese
Place of Abode and Living condition	87% (n=341) of the older adults were staying in 4-room brick houses. 93% (n=366) reported having access to all amenities (indoor water and electricity) Only 4% (n=16) were staying alone. The average number of people sharing their places of abode with them was four.
Highest levels of education	41% had high school training 41% primary school 7% had a tertiary education 11% had never been to school
Income	93% receive the non-contributory government old age pension of R 1 780.00 per month or R 1 800 for those older than 75 years. The remaining 7% did not qualify for this old age pension due to being foreign nationals or still being in active employment.
The most frequently reported work the older adults did prior to retirement	Domestic workers, working in factories as manual labourers/machine operators, and in various forms of nursing and caregiving.

Qualitative data obtained from rehabilitation clinicians elaborated on and added contextual detail. They highlighted that older adults were contributing towards the income of extended family and doing so to their detriment. It was not uncommon for older adults to forfeit meals to ensure the availability of food for school-going children. Many participants walked long distances to access healthcare facilities to save transport money, which was spent on groceries for the family instead.

It upsets me how the gogo's would rather use their money for their children than take care of themselves or come to the clinic. (Field notes)

She had been in [the clinic] *since early this morning, and by the time she came to me, she was hungry and tired, so I shared my lunch with her.* (Group discussion)

Rehabilitation clinicians also mentioned practices that showed gender discrepancy in the use of available resources.

The Mkulus[1] *have more freedom with their money and can use their pension for themselves, but the Gogos*[2] *They are expected to feed the family with their pensions.* (Group discussion)

The 393 older adults who were interviewed named 1118 meaningful out-of-home places that they valued visiting. Places of worship (268, 24%) were most valued, with healthcare facilities the second most reported place they valued to go to (247, 22.1%). These were mostly visited monthly (201/246, 82%) or weekly (38/246, 15%). Participants reported visiting medical facilities:

"To get my medicine"

"Because the doctor says I must go."

or because

"I have to go to know about my sickness".

Six participants visited medical facilities for the health needs of family members:

"I have to take my grandchild (who is disabled) *to see the therapists for his exercise,"* and *"My wife is in a wheelchair, so I must push her to see the nurses."*

Personal Health Factors and how these affected the ability and motivation to leave home and or use transport

When participants were asked to rate their health in general, 27% reported good health, 56% average health, and 17% poor health. When participants rated the degree to which their health had an impact on their ability to leave their homes, 58% reported no impact; however, for 42% ill-health had a constant or occasional impact. Table 2 shows the prevalence of health conditions and the effect this had on participants leaving their homes.

Table 2: Impact of personal health condition on leaving home

Health conditions reported by this population and its impact on leaving home	Qualitative data descriptors
Hypertension 74% (n=290) 45% (n=133) reported this to have an impact	Dizziness, Tiredness, Headaches. *If I have headaches, I cannot trust it to go out because I fear getting a stroke out there.*
Arthritis 36% (n=141) 73% (n=103) reported it to have an impact	Chronic pain affects motivation to leave home, modes of transport, and increases pain levels. *Our roads are too broken and the taxis too bumpy, so I feel the pain in my joints when we use the taxi.* Endurance. This affects the ability to walk. *I walk and stop and walk and stop.* Weather. *If it is cold or wet, my bones cannot move.* Joint deformities affecting mobility and functional ability. Slowness, stiffness, and joint pain affecting the ability to queue, sit or stand for long periods.
11% (n=45) had pulmonary and/or cardiac conditions 78% (n=35) reported it had an impact	Low endurance and fatigue. I *have to stop and rest for my chest, even if it is raining or there are tsotsis standing around.* Breathlessness or asthma. *My breathing is too hard, so in the taxi, people do not like to sit next to me because they can hear I am sick.*

[1] Grandfathers

[2] Grandmothers

9% (n=36) had had CVAs that resulted in some form of hemiparesis 78% (n=28) reported it had an impact	Mobilising/walking restrictions, especially over uneven terrain. *I cannot walk off the sidewalk without falling, and the ground is too rough with the loose stones.* Difficulty getting into and out of transport, and walking aids are cumbersome and difficult to take onto public transport.
7% (n=29) had conditions that affected their eyesight 66% (n=19) reported it having an impact	Night blindness. *I cannot see so I cannot be careful if someone comes to talk to me like I cannot watch him if he is taking my things from my bag*. Reduced peripheral vision. *I can only see parts of what I used to see so I need to plan where I walk and turn-turn-turn my head to watch for things on the roads.*
5% (n=21) had orthopaedic problems such as amputations, hip fractures, joint replacements 95% (N=20) reported it to have an impact	Pain and low endurance affect the ability to stand in queues or to walk for longer distances. *Even with the new hip, I cannot walk for long or stand and wait for the taxi.* Fear of falling due to uneven, inaccessible sidewalks and difficulty getting into transport or uneven ground surfaces. *I fell and broke my hand, and now I fear falling too much.*
4% (n=18) had speech and/or hearing difficulties 33% (n=6) reported it had an impact	Hearing loss affects safety. *I cannot hear if the taxi driver tells us something, and then I miss my drop off, and they get very cross. He says I am stealing his money*. Safety. *I cannot hear the running of the nyaope boys before they grab me, so* (snatch her bag). Other. *In taxis, you can always find loud talking and music, and it makes it difficult for me to hear.*
4% (n=18) had mood disorders such as anxiety or depression 78% (n=14) reported that it had an impact	Fear of the unpredictability of using taxis, crime, and close contact with strangers was reported to affect their ability to leave their homes. *Someone must always be with me when I go out*.

Health factors that were visible, such as limping or the use of assistive devices, increased participants' vulnerability during attendance at public healthcare facilities because of increased exposure to petty crime, mostly in the form of *snatch-and-grab* incidents. When public bathroom facilities were absent, limited, or poorly maintained, participants with poor bladder or bowel control were badly affected. They explained how disposable adult nappies were not affordable, forcing them to use towels or cloths, which do not prevent smells and leaks. Slowness of movement and poor endurance affected participants' efficiency when walking or boarding public transport; they reported a lack of compassion and understanding from commuters and drivers towards impairment or disability. Using assistive devices and mobility aids was problematic in crowded spaces and/or when using mini-bus taxis[3] and buses, especially during peak hours when the demand for access to transport was high. The type of mobility aids used by participants was bilateral elbow crutches (n = 67), walking canes/sticks (n = 36), wheelchairs (n = 31), and walkers (n = 15). A fear of falling was reported, especially related to poorly maintained or absent sidewalks or when moving in and around crowded areas. Standing and sitting tolerance posed problems when having to stand in queues when waiting for transport to arrive, and due to the small, confined spaces inside the taxis.

[3] The most common type of taxi in all South African cities is a 10 to 14-seater mini-bus, which is used to operate an unscheduled transport service for reward, mostly to or from a taxi rank.

Modes of mobility and transport used to visit healthcare facilities

Walking was reported by 89% of older adults to be their main mode of mobilisation in the community and was predominantly used daily and more often at the end of the month when their funds were depleted. The mean duration for walking was 35 minutes (range 5 – 60 minutes). Older adults walked to clinics and community centers in their neighborhoods and to public transport pick-up/drop-off points. Conversely, older adults recognised the health value of exercise obtained from walking; this view was reportedly promoted by rehabilitation clinicians who encouraged them to walk.

'She likes walking and finds it helps with the management of her pain.' [Field note]

Rehabilitation clinicians reported that the weather affected attendance and highlighted financial and transport poverty as the predominant reasons why older adults walked.

'They walk but not by choice – if only they had more choices.' [Debriefing and Discussion]

The second most frequently used mode of transport was the mini-bus taxi, and this was reported to be readily available. They were used to get to health facilities that were not within walking distance when the weather was cold or wet, if there was not enough day-light left, and if the area that had to be moved through was unsafe due to criminal activity. In close-knit communities, taxi drivers were reported to take care of older adults. There were, however, also problems associated with using mini-bus taxis related to poor road-worthiness of vehicles, reckless driving, and risk-taking behaviour of drivers. Multiple transfers[4] were confusing. The opening and closing of the sliding door posed problems for some of the older adults who have reduced strength or problems with handgrip. They also reported crime, such as *pick-pocketing* and *snatch-and-grab* incidents at taxi ranks. Driver and commuter behaviour towards participants who were slow or used assistive devices was considered rude and humiliating.

They can shout at you whoza whoza goggo you are making us all late. [Interview data]

Having access to or hiring a private motor vehicle was the third most frequently reported mode of transport. It was used when walking was not possible and public transport was not available; mostly the case for visits to tertiary and quaternary hospitals.

My daughter has a car, and it is good for us to ask her to take us to the hospital when we have to see the big doctors (specialists). [Interview data]

Most participants (66%) had never driven or owned a motor vehicle. Of those who could drive, only 11% were still driving. Rehabilitation clinicians further explained that it was common to find their patients having to rent a car, especially if they had a disability and/or were using wheelchairs, because none of the other modes of transport could fit a wheelchair or walking frame. This was reported to be the most expensive form of transport, and thus used only as a last resort.

Other modes of transport, such as buses and trains, were available in Gauteng, but those that operated in low-income communities were not accessible, and their routes focused on working commuters. None of the older adults reported using them to get to healthcare facilities. Clinicians highlighted the difficulties participants had in boarding a bus with walking aids, emphasising that it was impossible to do so with a wheelchair. Tuk-Tuks [5] were available in two of Gauteng's five districts, and none of them used them to get to healthcare facilities. Two participants (n = 2), both male, reported using bicycles daily and reported going *everywhere* on them, including using them to get to their local clinic. These two older adults considered cycling to be an affordable transport mode that kept them healthy and allowed them freedom of movement.

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[4] Multiple transfers involve having to use several taxis, or more than one mode of transport to reach a destination.

[5] Tuk-tuks are three-wheeled motorised rickshaws operated for reward

Clinicians shared observations that showed coping strategies being used by participants to enable their access to health facilities. Participants often planned and waited for each other to walk together. In close-knit communities with strong leadership, older adults were collectively cared for. A clinician explained that in such communities, an older adult was everybody's grandmother (Group Discussion). Mental stoicism was also found amongst the participants; exploring the impact of barriers preventing attendance of rehabilitation appointments, a participant answered:

If I have to go, I have to go. If I don't go, I will die before God wants me to (Interview)

Experience at medical facilities

Healthcare facilities had developed 'reputations' in the communities they served, and participants' responses supporting this ranged from positive accounts of supportive and well-run services to complaints. Long waiting periods for the attention of healthcare professionals were reported as problematic by clinicians and participants. One participant said that she prefers paying extra to go to the hospital, which was further away from her than going to her local clinic, because she felt the clinic did not help her as they ran out of her tablets, and the queues were too long. Older adults told of being scolded by healthcare practitioners, and one participant said:

You have to be careful when you go (to the clinic) *because the nurse will fight with you because you come on a different day*. (Interview)

Discussion with participating clinicians supported this and showed that they were aware of attitudes that negatively affected older adults' rehabilitation attendance. One example was of colleagues who would send a patient home if they were late for an appointment, telling them to make another appointment. This was also reported by an older adult who said that:

If I see that I will be late, I will go home because the doctors[6] *will tell me to come next time*. (Interview data)

Lack of resources, such as splinting material and problems with the referral system between institutions, was also reported by clinicians.

We refer patients to other hospitals if we do not have the resources, so they have to travel again, and in fact, any referral is a problem. (Group discussion)

Strategies to address barriers that affect access to rehabilitation

Clinicians suggested designated transport to fetch older adults and persons with disabilities from their homes and bring them to rehabilitation services. They felt this would address the out-of-pocket cost of healthcare for older adults and would address confusion related to patients turning up for services that were cancelled or moved. Some community health centres had such vehicles available, and these would drive through the community, picking up older adults for groups in the centre. Clinicians also mentioned interviews with clients who lived in old age homes and had access to transportation provided by the facilities in which they lived.

There are people who come and fetch him and drop him off, which is a big difference cause of not having to walk and not having no cost of transport. (Field notes)

DISCUSSION

Healthy Ageing is the process of developing and maintaining the functional ability that enables wellbeing in older age (WHO, 2019). Access to and attending rehabilitation is imperative towards such a goal. In this research, factors that affected older adults' attendance of rehabilitation in Gauteng's public healthcare services, the strategies they used

[6] Older adults collegially refer to everyone who is not a nurse as 'doctor' as it is difficult for them to distinguish between healthcare professionals.

to mitigate the barriers they confronted, and suggestions made for improving their experiences were explored. Combining the skills and points of view of different rehabilitation clinicians strengthened the results of this project, and this was seen especially in the discussion groups and suggestions made by rehabilitation clinicians to enable greater access to their services for older adults.

The benefits of urban living were seen in the demographics of the older adults interviewed: the collective age of older adult participants was higher than the South African life expectancy, and living amenities and healthcare facilities were within walking distance from them. Factors associated with the African philosophy of Ubuntu were offered as positive factors that were used as strategies to overcome barriers, but this philosophy also posed restrictive factors, such as the sharing of resources that equalize the well-being of a whole community. This is confirmed by other South African studies (Grut et al., 2012) that found that the health-related choices and decisions made by people with limited resources were shaped by complex barriers that prevented them from accessing health care services even when the services are available. This study recommends that health care provision to people who live in resource-poor settings should consider both individuals' needs and the availability of resources within the family group.

Bringing healthcare closer to the users of these services is an essential part of the NHI, and most of the participants in this study reported living within walking distance from a healthcare facility. The challenge lies in the offering of rehabilitation services at the primary healthcare level and in creating contextually relevant evidence to support the policies that must decide who offers what rehabilitation services and at which levels of healthcare. For policies to be effective and efficient, sound relevant evidence is needed, and preferably evidence that emerged from the context in which the policy is to be implemented. Financial poverty, not only of the older adults themselves, but also of their families and communities, coupled with transport poverty, was the main factor affecting the older adults' attendance at public healthcare rehabilitation services. There were indications that women were disproportionately affected compared to their male counterparts.

Globally, these factors have been well documented. In Thailand, mobility, poverty, and long waiting queues for healthcare services were a problem (Meemon & Paek, 2019). Du et al. (2020) investigated how older adults in a Chinese city commute to healthcare activities and found walking to be the main mode of mobility, and required a companion to accompany them. In Australia, older adults were found to be more likely to rely on public transport to access healthcare services (Patel et al., 2019), and a study in Brazil showed that populations in socio-demographically disadvantaged tracts have poorer public transportation links, resulting in barriers to equitable healthcare access (Yuen et al., 2018). There are also suggestions made to address health care access problems. A study done in Ireland showed that for older adults who do not have access to health insurance, the availability of healthcare within walking distance exerted a positive and significant effect on the utilisation of such services (Mohan et al., 2019). Choi and Dinitto (2016) propose increasing walkability, public and paratransit transportation designated for older adults, and increasing the practice of informal caregivers' transportation. The results from this study are thus not unique in the global context and the goals for universal health coverage and healthy ageing.

Suggestions made by clinicians and older adults, and strategies that are already employed by the older adults to address factors that affect their attendance of rehabilitation services, resonate with those of Grut et al (Grut et al., 2012). They suggest bringing healthcare to the users, strengthening accessibility of transport that brings users to healthcare facilities and using resources available within families and at community levels to address healthcare equity. Most of the older adults who participated in this study lived within families, and this meant that by extension, they shared in the well-being or

misfortune of the family. In poor families, they share their pensions, and this meant they had to walk to or forfeit food when going to or attending rehabilitation. In more affluent families, if someone had a private car, they were taken to and brought back from rehabilitation appointments. The lot of older adults is thus intrinsically linked to the community they live in.

Factors associated with normal ageing, for example, being slow or the use of an assistive device, affected older adults' access to healthcare facilities. However, these were exacerbated by the attitudes of transport operators and fellow commuters, a problem that has been well documented in international literature (Vaucher et al., 2018). More should be done to educate communities. We argue for a strong focus on shifting attitudinal barriers because negative attitudes seemed to contribute more to older adults' experience of vulnerability than their physical frailty did, shown by juxtaposing the experiences of older adults with physical impairments in supportive environments with those in which they are scolded, humiliated, or mistreated.

Improving transport to and from clinics was the most discussed suggestion to improve older adults' attendance at rehabilitation services. They suggested transport that operated on routes closer to their homes and the clinics. They also asked for better infrastructure on the route to clinics and specified sidewalks, walking rails, public toilets, shelters against the rain and sun, benches to rest on, and safe waiting areas in front of clinics. Asking a family member, friend, or neighbour to accompany them was a common strategy amongst the older adults. They explained it to be a culturally acceptable practice that was widely used and not only for the attendance to healthcare facilities. In exchange for the assistance and protections afforded by the accompanying person, it was expected of the older adult to pay for any transportation costs and, if the visit took the whole day, to provide them with lunch.

CONCLUSIONS

Politicians judge best when they listen to their people and learn from science. In traditional Africa, the phrase 'the elders have spoken' is the introduction to a finalisation of a matter. This article foregrounded the voices of older adults to allow them access to rehabilitation and healthy ageing.

The following strategies, emanating from this research, are proposed:

- Campaigns with a focus on healthy ageing in place, specifically facilitating supportive attitudes of transport operators and fellow commuters, are needed.
- Rehabilitation must be decentralised. To do this will require more evidence of the rehabilitation needs of older adults in SA and convincing leaders at all levels of buy-in. The concept of community-oriented rehabilitation is not a new concept (Wade, 2003) and is closely related to the principles of community-oriented primary care (COPC), a geo-graphically-based comprehensive approach to health care service delivery that starts with individuals and families in their homes (Marcus 2015).
- Rehabilitation service providers need cognisance of and insight into the complex and multifactorial nature of factors that affect attendance of their services. Rehabilitation clinicians have to take cognisance of the fact that they are not treating pathologies and conditions but older adults with valuable experience, and by extension, the families and communities from which they come.
- Older adults' living in South African urban areas, access to public healthcare is intrinsically tied to the communities that they live in. Actuating and strengthening resources within families and communities, fortifying the dignity of older service users, and incorporating the principles of community-oriented rehabilitation services are suggested as starting points.

Declaration of Interest

The authors declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article. This research did not receive any grant or funding. Data supporting the findings can be accessed by contacting the corresponding author.

Data Availability Statement

Data that support the findings of this study are available on reasonable request from the corresponding author. Data are not publicly available due to the format in which it was captured.

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Original Research Article

Inclusivity in Social Spaces: A Lens on Deaf Muslims' Religious Participation

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ABSTRACT

A socially inclusive society is one in which all people feel valued, and their inherent differences and diversity are respected while their basic needs are met, guaranteeing a life of dignity. While efforts are being made to promote a socially inclusive society for all, existing evidence suggests that Deaf people remain excluded in key social spaces particularly, places of worship. This study sought to explore the extent to which the Deaf access spaces of worship, the barriers, and the mechanisms for their inclusion in such spaces in Ghana. Framed by Social Inclusion Theory and case study design, the study employed semi-structured interviews, focus group discussions and key informant interviews in obtaining data from 31 respondents, including Deaf Muslims, religious leaders and parents. Descriptive statistics and thematic analysis were employed in the data analysis. The study revealed that there are Deaf Muslims who desire to participate in worship but are often excluded due to the absence of sign language interpretation, limited awareness of Deaf needs among Imams, gendered religious rules, and negative societal attitudes. It is recommended that sign language interpreters be prioritised and engaged in places of worship while awareness-raising through educative programs on the communication needs of the deaf and elimination of discriminatory tendencies be stepped up in order to attain meaningful inclusion of Deaf Muslims in social spaces.

Keywords: Social Spaces, Sign Language, Interpreters, Places of Worship, Mosque

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BACKGROUND

Introduction

It is globally acknowledged that a socially inclusive society is one in which all people feel valued and where their inherent differences and diversity are respected while people's basic needs are met, guaranteeing everyone a life of dignity (Robo, 2014). The plurality of ways and spaces for guaranteeing social inclusion is also well acknowledged (Jones, 2010; Crouch, 2007). Within this plurality is the right to association, which includes freedom of worship. As observed by Jones (2016), the right to association and freedom of worship are essential human rights protected under international human rights instruments, including the Universal Declaration of Human Rights (UDHR) and the International Covenant on Civil and Political Rights (ICCPR). Religion is a crucial component of personal growth for everyone, including persons with disabilities (Treloar, 2002; Carter, 2013; Mikołajczuk, & Zielińska-Król, 2023). The spiritual, emotional, psychological, and

physical growth of a person is believed to be influenced by religion (Mikołajczuk, & Zielińska-Król, 2023; Koenig, 2012). Where people's religious activities and practices are highly regarded and the required spaces are created for them to exercise these, they experience a much more structured life in the ways they desire (Jones, 2010; Mohad et al., 2018).

Given their centrality to worship, the places in which people worship are not just loci for spirituality but also critical spaces for promoting association (Williams, 2016), community bonding, and social cohesion, which are all aspirations of social inclusion (Ahmed, 2018). Beyond the locus of worship, the characteristics of the worshipers also matter when it comes to social inclusion (Maraschin, 2017). Persons with disabilities, particularly Deaf Muslims, remain a critical group of worshippers whose characteristics, juxtaposed with the spaces for worship and related issues, may reflect the extent to which inclusion or exclusion manifests. Despite this importance, Deaf Muslims are believed to be excluded from participating effectively in public spaces of Islamic worship.

Laws and conventions abound to safeguard the inclusion of persons with disabilities. Evidence also exists regarding the extent to which countries adhere to these laws and conventions. In Indonesia, for instance, the constitution in Article 14 letter d of Law No. 8 of 2016 concerning Persons with Disabilities states categorically that religious rights for Persons with Disabilities include the right to obtain services based on their needs when carrying out worship according to their religions and beliefs (Wilson, 2013). Thus, PWDs should also be able to fulfil their religious rights without inhibitions. In compliance with these laws, some places of worship have been architecturally designed, making them disability-friendly, but that only serves the needs of persons with physical challenges. Communication facilities, however, have not been factored in many places of worship for the Deaf community (Kahfi & Jamaluddin, (2025). The United States of America has also implemented the Accessible Congregation Campaign (ACC), where places of worship that are physically and communicatively easy to access for Persons with Disabilities are prioritized. The Americans with Disability Act requires places of worship to have architectural designs, means of communication, and attitudes that encourage the full participation of children and Persons with Disabilities to engage in full religious practices.

In Ghana, the constitution provides for freedom of association, and this includes religious affiliations (Addai et al., 2013; Pokimica et al., 2012). Additionally, the Persons with Disability Act, 715 of 2006, guarantees the right of persons with disabilities to affiliate with any religion and be provided with services that enable the fulfilment of participation in the religious activity. The Ghana Statistical Service notes that about 470,737 people in Ghana have some degree of hearing loss (Ghana Statistical Service, 2021). Of this number, 385,794 have some difficulties, 65,495 have a lot of difficulties, while 19,448 cannot hear at all (Ghana Statistical Service, 2021). On the religious affiliation of the citizenry, there are currently 6,135,572 Muslims in Ghana (Ghana Statistical Service, 2021). Despite these provisions and the presence of many Deaf Muslims in need of congregating to meet their spiritual and social needs, many social spaces and worship centres in Ghana lack adequate provisions for the Deaf.

Evidence regarding the exclusion of the Deaf in social spaces of worship in Ghana is limited. The limited evidence suggests that exclusion from information from religious leaders, due in part to communication barriers, significantly affects the inclusion of the Deaf in spaces of worship (Smith, 2011). Communication barriers, such as the lack of sign language interpretation and limited accessibility to religious text, are also believed to hinder Deaf Muslims' full participation in religious activities (Pokimica et al., 2012). The specificity of the exclusion of the Deaf in places of worship within the context of Ghana, however, remains unknown. This study, therefore, examined the specific barriers and manifestations of the exclusion of the Deaf in social spaces such as places of worship.

The goal of the study

The study sought to explore the extent to which Deaf Muslims accessed social spaces in Ghana. The following were the specific objectives.

To examine barriers to access to the Deaf to social spaces of worship in Ghana

To assess the mechanisms for promoting and sustaining the inclusion of Deaf Muslims in social spaces of worship

Theoretical underpinning

Social inclusion theory by David Pocock (Allman, 2013) was employed in understanding the phenomenon of inclusivity in social spaces, particularly places of worship. Social inclusion postulates that hierarchical notions of exclusion and inclusion run counter to development. Improving the terms on which individuals and groups take part in social activities in society should be central to a just world. Problematizing and disadvantaging particular groups and the improvement of the ability, opportunity, and dignity of such groups of people, particularly based on their distinctiveness, reflect the central realms of social inclusion. Social inclusion is increasingly identified as both a process and a desired outcome for people with disabilities, with multiple ways of approaching and attaining real inclusivity. There exist multiple perspectives and ways of approaching social inclusion. Dominant approaches transcend economic participation to health and access to services, personal independence, self-determination, education, and general social interaction and fulfilment of social roles (Taylor, 2012). Irrespective of the approach, social inclusion is about improving the terms of participation to address exploitation and/or further deprivation of those affected due to resource poverty and/or multiple dimensions of their identity (World Bank, 2021).

Operationally, Deaf people in Ghana are among the most excluded groups in the country (Nortey, 2009). Religion and places of worship are the social products and spheres within which the inclusion of the Deaf as a matter of right, mandated by the constitution of Ghana, becomes critical. Among believers in Ghana, participation in religious activities plays a great role in strengthening their spiritual and physical well-being (Asaah, 2020; Benyah, 2023). Their religion also has a great influence on their other dimensions of life, including opportunities for education, livelihood, and social advancement (Dey, Amponsah & Wiafe-Akenteng, 2021). The terms for the participation of Deaf Muslims include the physical environment within which worship takes place, the knowledge and response to disability issues and other mediating factors, notably religious leaders and Deaf responsive communication mechanisms.

METHODS

The study employed a case study design in realizing the set objective. Even though the study was qualitative, limited quantitative data were required to justify the scope and depth of exclusion. Consequently, a concurrent mixed method approach was adopted, involving a simultaneous collection of both quantitative and qualitative data (Fobi, 2023; Merriam, 1998). The limited quantitative results offered a broad overview of patterns and trends, while the interview excerpts provided deeper, contextual insights that brought the numbers to life. This blend not only strengthened the credibility of the findings but also captured the lived experiences behind the statistics.

The study area was Tamale Metropolis in the Northern Region of Ghana. Tamale Metropolis was chosen for its significant population of Deaf Muslims (Ghana National Association of the Deaf, 2023; Ghana Statistical Service, 2021). In terms of spaces of worship, the study initially targeted as many centres and mosques as they existed in and around the Metropolitan center and the adjoining communities. Eventually, six centres of worship were covered due to their confirmation as the most frequented by Deaf Muslims.

Data on the exact number of Deaf Muslims in the study locations was unavailable at the time of the study. As a result, given the largely qualitative nature of the study with limited quantitative elements, the study adopted a manageable sample size of 16 Deaf Muslims, comprising 11 males and 5 females, as well as 9 parents of target Deaf Muslims. This comprised 5 males and 4 females who were themselves Muslims. The sample further included 6 Imams of the various mosques, having been convinced that the findings would eventually reflect the key characteristics of the population (Creswell, 2012).

Table 1: Sample Size

Category	Gender		Age range
Deaf Muslims	Male:	11	25-45years
	Female:	5	20-45years
Imams	Male:	6	50-60years
	Female:	0	0
Parents	Male:	5	50-75 years
	Female:	4	50-65years

A combination of purposive and snowball sampling techniques was adopted in reaching out to respondents (Creswell, 2012; Fobi, 2023; Hitchcock & Hughes, 2002). The study team first contacted the Ghana National Association of the Deaf (GNAD) to be linked to any Deaf Muslims in their contact list in the study region. Two contacts were provided after GNAD had an initial discussion with them for their consent. The team got in touch with the 2 contacts for a briefing, and having understood the rationale for the study, they obliged and participated in the study. They then referred the team to other participants since they are in a circle. As the members are familiar with each other, their guidance facilitated easy access to others. Thence, the Deaf participants served as a conduit for reaching out to the Imams in their respective centres of worship and their parents.

The instruments for data collection were a semi-structured interview guide, a key informant interview guide, and a focus group discussion guide. Data was collected through face-to-face interviews, focus group discussions, and key informant interviews. The sampled Deaf Muslims were interviewed guided by the semi-structured interview guide and through interviews in their respective homes based on pre-arranged dates. The data collectors were all proficient in Ghanaian sign language; therefore, the team collected the data directly. Additionally, one focus group discussion (FGD) was conducted in order to confirm and cross-fertilise the perspectives of the respondents. The members of the focus group were five Deaf Muslims (two females and three males) who were earlier interviewed. This was possible because the respondents resided in the same geographical location. On their part, the Imams and parents were interviewed in their capacity as key informants and using their native language, as they were typically non-Deaf with no formal education. The “Twi” and “Dagbani” languages were used as media of communication. The team is speakers of “Twi”, hence the “Twi” speakers were interviewed directly, while a language translator service was employed to facilitate communication for the “Dagbani” aspect.

Ethical considerations included prior informed consent from each participant. This comprised ensuring that each participant was provided with a comprehensive explanation of the study's general objective, procedures, potential risks, benefits, and their right to withdraw at any point without penalty. Confidentiality and anonymity were strictly maintained throughout the process, with all data being anonymised (Deaf Muslims- DM1 to DM16, Imam-IM1-IM6, and Parents of Deaf Muslims- PDM1 to PDM5. Also, IM1, IM2, etc., were used to anonymize the Imams) and stored securely to prevent any disclosure of participants'. The principle of respect for participants was upheld, as they were treated

with dignity, and their autonomy was honored by allowing them to make informed choices about participation. Additionally, the team planned thoroughly to minimize harm and ensured that the research process did not cause psychological, emotional, and social distress.

As part of the data analysis, the limited quantitative data was analysed using simple Excel. This data was mainly biographical information of the respondents. Simple charts were used in presenting and analysing the questionnaire's data. The qualitative data, which was also strengthened by recorded transcripts, were transcribed for analysis purposes. This was followed by thorough reading and familiarisation with the transcribed data, where the team patiently and repeatedly read and immersed themselves in the transcripts to gain an in-depth understanding of the content (Bryman, 2012). Subsequently, a preliminary list of initial codes was generated, identifying meaningful segments related to the research objectives. These codes were then organised into potential themes, considering patterns and variations across the data. Through repeated reviewing and refinement, themes were finalised based on their coherence, relevance, and ability to capture participants' perspectives.

Once the themes were established, the study team conducted a thorough analysis within each theme, comparing data segments to ensure consistency and coherence. Quotes were selected to exemplify each theme, providing supporting evidence for the interpretations made. Finally, the entire analysis was reviewed and refined to ensure an accurate representation of participants' experiences and perspectives, and the findings were presented in a comprehensive thematic framework, linking back to the research objectives and interview context. In presenting the data, the study employed a complementary approach by integrating both quantitative and qualitative findings to enrich understanding.

RESULTS

Demographics of participants

Table 3.1: Demographics of participants

Participants		
Educational Status		
Educational Level	Frequency	Percentage
No Education	18	58
Basic	7	23
Senior High/Vocational	4	13
Tertiary	2	6
Total	31	100

The data showed that the majority of the respondents, 18 (58%), had no education. Only 7 (23%) had basic education, and another 4 (25%) had up to Senior High School/Vocational education. Two (6%) of the respondents reported having a tertiary education. They were either at the University, College of Education, Technical University, or had completed one of these.

Barriers to the Access of the Deaf to Social Spaces of Worship in Ghana

The first objective investigated the barriers to the inclusion of Deaf Muslims in social spaces of worship in Ghana. Respondents' views through questionnaires are presented in the figure below.

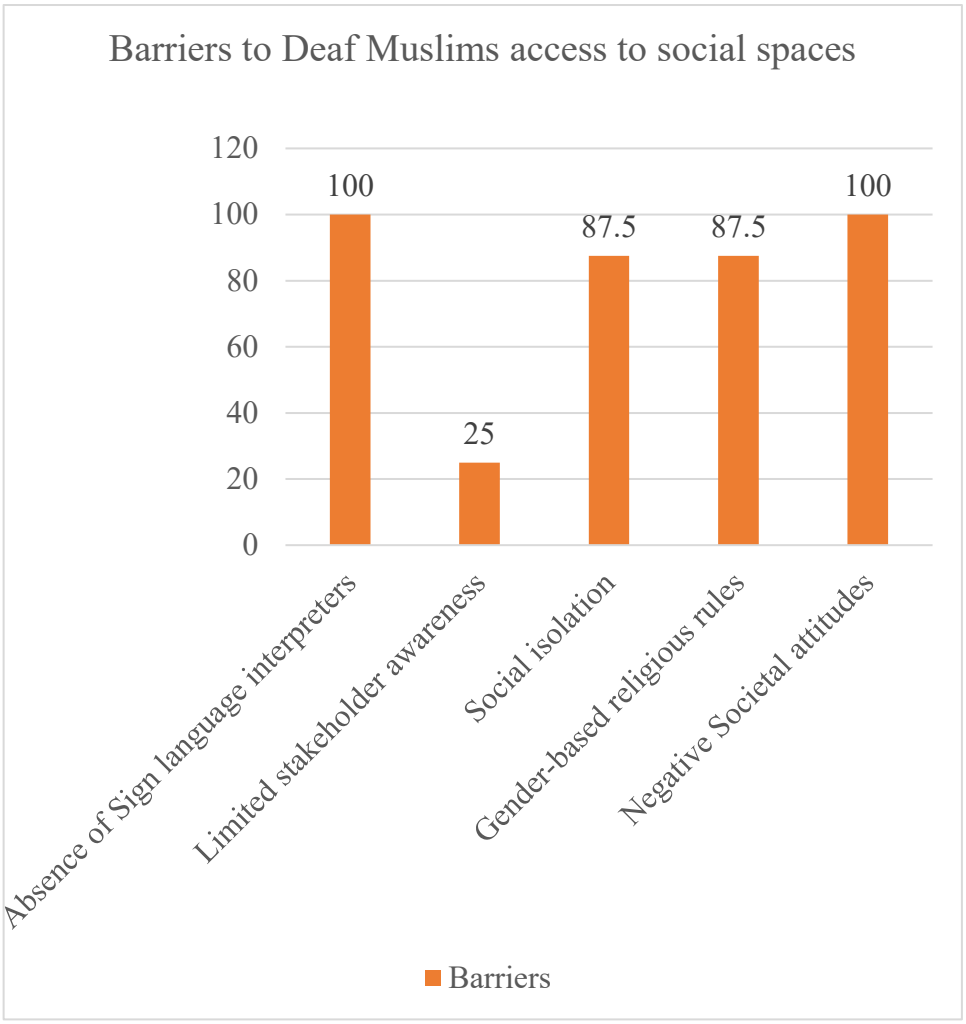

Figure 1.0: Barriers to Deaf Muslims' access to social spaces

Figure 1.0 shows that 100% of the Deaf participants confirmed the absence of sign language interpreters as a barrier to their access to social spaces; 25% also raised limited stakeholder awareness as a barrier. Also, 87.5% identified social isolation as a barrier to participation in social spaces. Among these, 87.5% noted that gender-based religious rules as a barrier, and negative societal attitudes were also raised by all the participants, with 100% mentioning it. The qualitative data supported these concerns and stressed that they were major issues that affected their full participation. The qualitative data are presented below:

Availability of Sign Language Interpretation Services

Supporting the quantitative responses, the interviews indicated that none of the 6 worship centres that the study covered had sign language interpretation services provided. Due to these challenges, all the Deaf Muslims and nearly all the Imams noted that the limited access to communication services through sign language interpreting deprives many Deaf people of participation in their religious activities. In buttressing their position, DM2 said;

> *"There is no sign language service provided at the mosque for us (Deaf people,) and as a result, I mostly do not feel included". This assertion was corroborated by DM8 by saying; I am not factored into the plans of the mosque. This is because there is no sign language interpreter to facilitate communication for me. So I decided not to go.*

In the effort of some religious centres to provide information to their congregants, they integrate technology through mounted television sets that project prayers and scriptures scrolling. However, it was observed that such information was inaccessible because the Deaf have little knowledge of Arabic, in which the scriptures were presented. The English was missing in the projection. DM12 indicated,

> *"There is a television set mounted in the mosque I worship, but the projections are in Arabic. I cannot read Arabic, so it doesn't make any sense to me".*

In the opinion of DM16, the projection moves so fast that even if they are able to read Arabic, they would still not be able to read it:

> *"The projections move very fast. You know some of us are slow in reading. Even if I could read Arabic, the speed at which it moves, I will not be able to read, and it is not repeated, too".*

Due to the challenges in communication, some of the Deaf fail to join other congregants in the designated public places of worship. It also emerged that their exclusion is further heightened during festivities, where the Deaf congregants become passive participants or simply absent. It is also a common practice to find the Deaf Muslims seated among other congregants and only observing proceedings, as lamented by one of the respondents in the following:

"During festivities, I join family and friends at the mosque dressed in my festive wear. Everybody is happy listening to the sermons, while I sit without information. Sometimes I see them laughing and looking happy, but I am just seated, not knowing what is happening" (DM6).

This points to a broader accessibility issue beyond the mere presence of sign language interpreters. Even with technological provisions, if content is not linguistically and visually adapted, it excludes Deaf persons from full participation (Napier, 2011; McKee, 2015). Sign language services must be formalised and not treated as optional or volunteer-driven offerings (Hauser et al., 2010; Fellinger et al., 2012) if full inclusion is to be achieved. Moreover, worship content should be presented in simple, readable language and appropriate formats, as emphasised by Emond et al. (2015) and the World Federation of the Deaf (WFD, 2018).

Stakeholder awareness

In the quest to confirm and validate the quantitative data on limited stakeholder awareness, the team reached out to the stakeholders (Imams) for their responses on the challenges facing the Deaf congregants at their various mosques. Their responses showed that the majority (4) of Imams in the study were unaware of the presence of deaf congregants at their centres. The cause, according to the participants, was the failure of the deaf congregants to make themselves and their needs known; IM 5 reported:

Deaf! I have never seen a Deaf person in our mosque. They are not there and do not worship with us. However, issues of the Deaf are delicate and would need many plans to be able to accommodate them.

Some participants value diversity and are willing to make provisions for their communication needs. IM2 said:

> *"If we were aware, we would gladly make provisions for their inclusion. Qur'an preaches of acceptance and inclusion of all persons without discrimination, hence on that basis, provisions could be made for them".*

The exceptions were two participants who reported their awareness of some deaf congregants during worship, but added that their presence was occasional. They indicated that despite their occasional presence, their mosques did not have a dedicated sign

language interpreter due to the uncertainty of their presence. IM4 indicated that there was a volunteer sign language interpreter who provides service as and when he is at prayers, and the Deaf are also present. The respondent said:

> *"There is a sign language interpreter to help the Deaf from time to time. The interpreter is, however, not permanently engaged, so the dedication to duty is not encouraging. The interpreting is offered on a voluntary basis since the interpreter is also a Muslim and worships with us. As a result, it is only when the interpreter is available during prayers, there is an interpretation service." (IM 5).*

This unawareness echoed (Steinberg et al., 2006; Kusters et al., 2017) that the exclusion of Deaf persons in public institutions was often a result of systemic invisibility rather than deliberate intent. To minimise this, sensitising religious leaders through inclusive education is crucial, especially in societies where disability is stigmatised or misconstrued (Oliver & Barnes, 2012; Shakespeare, 2013).

Social Isolation at Worship Places

Society plays a critical role in the nurturing of the young. Social acceptance in human life helps provide the individual with confidence in being loved, cherished, and valued. That, in turn, helps in the complete development and socio-emotional development of the individual. One issue that was raised was the issue of social isolation in places of worship. When the Deaf Muslims are seated in the mosque, a cross-section of the congregants does not like to sit near them or socialise with them. They are often isolated, and the feeling of isolation affects their socio-emotional well-being. DM1, who is a female, reported;

The few times that I have been to the mosque, some of those who know I am Deaf do not want to sit close to me. They have a bad attitude towards me. Maybe they feel I am not fit to be in their midst. They would rather make my family members sit by me on both sides.

Stigma of this kind is pervasive and is widely reported in disability studies literature. According to the World Health Organization (WHO, 2011), attitudinal barriers are often more debilitating than physical ones. De Clerck (2019) argued that for true inclusion, spiritual communities must promote emotional belonging, not just physical presence. This is the sure way of ensuring that, irrespective of a person's ability, the person can function effectively.

Gendered Religious Rules

Two female respondents from the focus group discussion supported the quantitative assertion that gender-based religious rules posed a significant barrier to accessing social spaces. They noted that the seating arrangements in the mosque did not facilitate their effective participation in worship. They indicated that the mosque is structured such that females are seated at the back, separated from the men by a barricade. This physical barrier obstructs their view of the front pew of the mosque, where the male worshippers are situated. Consequently, they noted that even if a male sign language interpreter was present, they would be unable to benefit from his services, as the barricade prevents them from seeing him or engaging with the front of the congregation.

> *"We sit at the back end of the mosque with fellow women, separated by a barricade that blocks our view of what is happening at the front. This arrangement leaves us completely disconnected from seeing the leader and whatever is happening in the front" (FGD DM1)*

> *"Even if there is a male interpreter present, it doesn't help us because we can't see him from where we are seated. It feels like we are excluded from fully participating in worship, simply because of our position in the mosque and our disability" (FGD DM3)*

This setup posed a significant challenge to their inclusion and access to the spiritual and communal aspects of worship. The research team sought the perspectives of Imams regarding the practice of separating women from men during worship. Specifically, they inquired about the protocol for accommodating a deaf female congregant who requires the services of a male sign language interpreter. The question focused on whether the interpreter could be permitted to accompany the deaf female worshipper in the women's section or if the deaf female would be permitted to join the men's section to facilitate effective communication. In response, IM 5 said:

> *"Islamic teachings discourage the mixing and close interaction of men and women in the same space without boundaries, as it is believed to potentially lead to temptation or inappropriate behaviour. Such interactions are considered a risk to moral integrity and are therefore discouraged. This principle is supported by the Quran, in Surah Al-Ahzab (33:53), which advises believers to communicate with women from behind a screen for the sake of maintaining purity of heart for both parties."*

Social norms and attitudes

Participants of the interviews echoed the report from Table 1.0 above that negative societal attitudes towards the participation of Deaf Muslims in worship exist, as they face discrimination and misunderstanding about their needs within the Muslim community. Respondent DM 12 shared: *People in the mosque often assume we cannot understand what is being taught or prayed because we cannot hear, so they ignore us completely, leaving us out of important activities.*

This exclusion not only isolates Deaf individuals but also reflects a lack of awareness about the potential for Deaf Muslims to fully engage in worship with appropriate accommodations. Similarly, respondent DM 16 expressed frustration, stating:

> *"Some people believe that because we are Deaf, we are not fully capable of practicing Islam properly. They sometimes make hurtful comments or even refuse to sit near us, as if our disability makes us less faithful or less clean."*

Such attitudes create an unwelcoming environment that discourages active participation and often leads to hurtful feelings among Deaf Muslims. These experiences accentuate the urgent need for sensitisation within Muslim communities about the capabilities and rights of Deaf individuals, as well as the importance of fostering inclusivity. Negative perceptions not only alienate but also diminish the spiritual connection of Deaf Muslims in worship settings.

Mechanisms for promoting and sustaining the inclusion of Deaf Muslims in social spaces of worship

One of the study's objectives was to investigate the strategies that parents of deaf children or relatives who are Muslims use to inculcate Islamic values in their younger ones. The figure below presents the responses from the 6 participant parents.

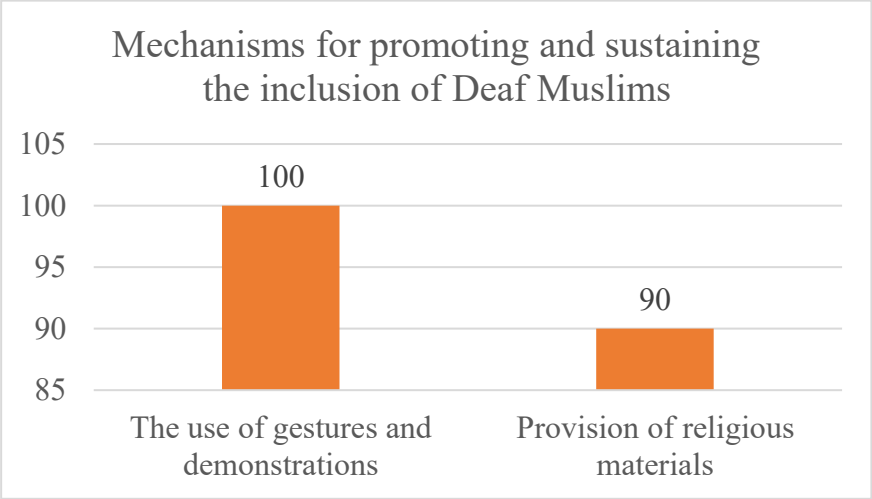

Figure 1.2: Parental Strategies for Imparting Religious Values to Deaf Muslims

Figure 1.2 shows that all the parents (100%) indicated using gestures (local signs) to communicate with their children about how some rituals are performed in Islam. These responses were further validated through in-depth interviews, as said by PDM6:

> *"Communication with my deaf daughter is through gestures and body language, like pointing to objects. Sometimes I point to the objects. Once I point at the thing, she automatically understands what I mean."*

Parents also demonstrated how ablution is performed for the deaf children without uttering any words. The words in the recitations are meditated upon, and they are also expected to do similar meditation while demonstrating as done.

> *"I only demonstrate the performance of ablution to my Deaf Muslim child. He imitates what I do, such as the positioning, bowing, etc. Aside from that, the actual recitations and prayers, I am unable to teach him, but Allah, in his mercy's shall have mercy on them" (PDM 2).*

In their effort to provide opportunities for the Deaf to undertake their daily obligation of worship, almost all the parents (83%) again said they provided religious materials as a way of supporting their Muslim deaf children to perform the religious activity of worship. A participant said,

> *"I make provisions for her (Deaf Muslim) prayer dresses, hijab, and ablution can, which aid her to pray. There are mats she can use, and the mosque is in the yard where she can pray" (PDM 1).*

PDM 4 corroborated the accession of PDM1 and said,

> *"I made sure I bought her all the dresses he needs and I ensured he does not lack anything. Even when we are late, I still make sure he gets an ablution can for himself while the other people pair the cans left."*

DISCUSSION

The study findings show that none of the centres of worship had basic sign language interpretation services, nor were there Deaf-friendly technologies in place to facilitate

communication. The absence of these essentials, which could otherwise deepen the effective participation of the Deaf, is consistent with Rana (2025), whose study on North American Deaf Muslims revealed that even though Islamic doctrine requires believers to acquire essential religious knowledge to fulfil religious obligations, many Deaf and Hard of Hearing Muslims face significant barriers due to the lack of accessible resources, particularly sign language translations of sermons and instructions. From the rights perspective, these absences are counter to the Disability Act of Ghana (Asante & Sasu, 2015).

Research such as that by Pokimica et al. (2012) and Fobi & Oppong (2019) shows that sign language interpretation services are crucial to the full participation of the Deaf in this all-important component of human existence. While availability and utilization are clear demonstrations of the effort toward an inclusive community, the absence of these services, as revealed by the study, is a great void. In most Ghanaian and African social contexts, religion and matters of faith are paramount, and therefore, no one should be excluded due to the absence of sign language interpretation services.

The study also revealed that most Imams lacked awareness about Deaf and Deaf-related issues. As the leaders in places of worship, some Imams were unable to detect the presence of Deaf congregants. This finding supports earlier studies by Shah and Bhatti (2023), Lewis (2020), and Mokhtar and Omar (2018), which all confirmed that a critical knowledge gap exists among religious leaders regarding Deaf-related issues, significantly hindering the participation of Deaf individuals in religious activities and related social spaces. While acknowledging the effects of awareness and disability-friendly mosque facilities, Muhammad and Fitriani (2025) observed that positive attention from mosque authorities and Jemaah or congregants can be effective remedies for increasing the participation of persons with disabilities in worship. If the Imams, who are the leaders of the service, are aware of Deafness and the needs of the Deaf, adequate provisions could be put in place to accommodate and welcome them. Social inclusion theory situates this ignorance as a barrier to opportunity and dignity, which are two of its central pillars. A lack of understanding of Deaf culture, communication methods, and the unique needs of Deaf congregants often results in their marginalization within religious spaces. Their limited awareness has been linked to the exclusion of Deaf individuals from meaningful engagement in worship and leadership roles, as seen in contexts ranging from Pakistan to Malaysia and beyond.

Due to the nature of the Deaf being unable to benefit from incidental learning, it is difficult for them to benefit from some aspects of religious activities, such as Qu'ran recitals. As admonished by Fobi and Oppong (2019), deafness is a hidden disability that is hardly noticed unless the person demonstrates certain behaviours. Where religious leaders are intentional about the presence of everyone, the Deaf can also be noticed and supported inclusively. From the social model perspective, Deaf people, like other persons with disabilities, patronize settings only as long as they support their communication needs. The elimination of awareness and material barriers and guaranteeing persons with disabilities unimpeded participation in all spheres of community life. For Deaf individuals who desire an inclusive worship, their challenge is the environment, which requires an adjustment in the communication and related needs of these Deaf congregants. Anything short of this implies the potential for or reality of their exclusion.

Beyond the awareness gap and resource barriers, social isolation emerged as a key exclusionary practice faced by the Deaf who patronise places of worship. This finding supports existing literature on the stigma and discrimination faced by Deaf individuals in religious and social spaces. For instance, Shah and Bhatti (2023) reported that cultural misconceptions about Deafness often result in exclusion and marginalisation, particularly in communal worship settings. Mokhtar and Omar (2018) found in their study that Deaf Muslims in Malaysia frequently experienced social isolation in mosques due to a lack of

awareness and understanding among other congregants. Acts and omissions that tend to isolate the Deaf have detrimental effects on their socio-emotional well-being, confidence, and self-worth. Social acceptance is a critical aspect of human development, fostering a sense of belonging and emotional stability. Therefore, the revelation that a cross-section of congregants in mosques displayed a reluctance to sit near Deaf individuals or socialise with them is at variance with inclusivity. Viewed under Pocock's framework **(**Taylor, 2012), inclusion in places of worship must involve meaningful social interaction and not just access to physical space. The lack of acceptance, whether overt or covert, also violates the goal of social interaction and role fulfilment, which is an essential domain of social inclusion.

From the gendered perspective, the practice of confining women to the back of the worship area behind a barricade emerged as a significant barrier to the full participation of Deaf individuals. This arrangement posed a double burden for Deaf females who desire to participate in worship, as it restricts visual access to the front, which is often problematic for Deaf worshippers who rely heavily on visual cues to engage with the service. This finding is consistent with Mokhtar and Omar (2018), who observed that structural arrangements in Malaysian mosques often limited the participation of Deaf Muslims by failing to accommodate their visual needs. Earlier studies by Burke et al. (2011) emphasised the importance of accessible religious spaces, noting that barriers to visibility and communication hinder the spiritual engagement of Deaf individuals. The findings are also consistent with Shah and Bhatti (2023), who stressed how an inadequate understanding of Deaf culture and needs by religious leaders perpetuates exclusion in worship settings. As provided in Social Inclusion Theory, rigid social norms disadvantage distinct groups. When religious practices fail to accommodate diversity, they reinforce exclusion even while claiming universality. Rather, the adaptation of the physical and symbolic arrangements in spaces of worship presents a positive route for inclusive participation.

Furthermore, pervasive negative societal attitudes faced by Deaf Muslims in worship were identified as significant obstructions to effective worship by the Deaf. Discriminatory tendencies by peer worshipers who are non-Muslim and misconceptions and stereotypic posture towards Deaf individuals as an incapable group relative to comprehending prayers or teachings, also impact their inclusion. Shah and Bhatti (2023) documented similar challenges among Deaf Muslims in Pakistan and noted that misconceptions about the capabilities of Deaf Muslims often led to exclusion and isolation. The finding, however, disagrees with Lewis's (2020) report that some faith communities work to accommodate individuals with disabilities, including the Deaf, by ensuring inclusive practices such as the use of sign language interpreters and accessible worship formats. This contrast, however, reflects the differences in the level of disability awareness and resources available in various communities. These negative societal attitudes reflect deeply ingrained misconceptions. Such stigma exemplifies Pocock's claim that inclusion is not only structural but also relational—restoring dignity requires shifting social attitudes. These attitudes prevent the fulfilment of Deaf Muslims' social and spiritual roles, stressing the need for widespread disability awareness and education in religious contexts.

The fact that parents found it difficult to communicate and transmit religious values to their children can be a major factor for Deaf Muslims. Due to the challenges of communication, parents resort to other means, such as gestures, to inculcate the values in the younger ones. It was heart-warming that the study found that parents only rely on gestures to send their messages. This finding agrees with Shah and Bhatti (2023), who identified similar strategies among parents of Deaf Muslims in Pakistan. In their study, gestures and demonstrations were primary tools for teaching religious practices due to the lack of accessible religious instruction. This finding exposes the issue of parents' inability to learn sign language since most Deaf persons are born to hearing parents and their mode

of communication is verbal. The Deaf are compelled to make do with verbal communication coupled with gestures. This accentuates the communication gap in transmitting religious values. From a social inclusion lens, this limitation constrains both the child's opportunities and the parent's role in religious education, hence violating the principle of empowerment through opportunity. Advocacy for sign language education among hearing parents is thus a necessary step toward inclusive spiritual development.

The study also found that parents played an initiative-taking role in ensuring that their Deaf children performed their daily obligations of worship by providing essential religious materials such as hijabs, ablution cans, and prayer mats. This is in line with the view of Mokhtar and Omar (2018), who found that parents often take the lead in providing material and emotional support to ensure their children can participate in religious activities. While parents provided physical materials to support religious practice (e.g., prayer mats, hijabs), these efforts, though important, are not sufficient for genuine inclusion. Pocock's theory calls for structural and procedural changes that go beyond material access to communication, dignity, and role fulfilment. The findings support this by demonstrating that while material support facilitates routine participation, it must be supplemented by systemic changes to truly empower Deaf Muslims.

The concept of inclusion, particularly within the framework of disability and religious spaces, refers not only to the physical presence of persons with disabilities in communal settings but also to ensuring their full, meaningful participation in the spiritual, social, and cultural dimensions of religious life (Haynes, 2020; Booth, 2011; Ainscow, 2016). Inclusion in this context implies equitable access to information, communication, and community belonging. Focusing on this study, inclusion is not just an outcome, but a process shaped by communication accessibility, social attitudes, religious doctrine, and structural alignment. However, as the data revealed, deaf Muslims in the sampled worship centers experienced consistent exclusion across these dimensions. Moreover, the study espoused the intersectional nature of exclusion. Deaf Muslim women faced a double burden due to both their gender and disability. The gendered structure of mosques, where women are positioned at the back, separated by barricades, physically isolates them from potential male interpreters, further creating a layered exclusion (Crenshaw, 1991). This intersection of disability and gender roles reveals how outwardly neutral religious norms can become tools of systemic exclusion when they intersect with disability. The data, therefore, supports the conceptual position that true inclusion in social spaces, particularly places of worship and community life, cannot be achieved without addressing the underlying social and structural barriers. As noted by McIlroy & Storbeck (2011), inclusion in religious spaces requires not just presence but participation, something the current mosque environments fail to provide due to a lack of awareness, institutional readiness and interpretive services. Through this lens, the findings of the study challenge the passive or tokenistic interpretations of inclusion and instead support a more robust, transformative model of inclusion that involves active engagement, accommodation, and restructuring of communal norms.

CONCLUSIONS

The findings brought to light the barriers to the inclusion of Deaf Muslims in worship, which include a lack of sign language interpretation services, with its resultant effect on the inability of Deaf Muslims to participate meaningfully in worship, the failure of the religious leaders to notice and prioritise the needs of the Deaf, and social isolation through overt and covert discriminatory tendencies. The combined effect of limited stakeholder awareness and structural and attitudinal challenges is reflected in the depth of exclusion of Deaf Muslims in social spaces of worship. These barriers reflect a broader failure to

embrace the principles of inclusivity mandated by both religious and human rights frameworks. The persistent exclusion of Deaf Muslims in worship settings contradicts this principle, necessitating vital action to enhance a culture of inclusivity. The study, therefore, concluded that social spaces for Muslim worship remain largely inaccessible to Deaf Muslims despite efforts by the state in the form of the enactment of a Disability Law, by families, and few religious leaders to ensure meaningful inclusion of persons with disabilities, including Deaf Muslims.

Recommendations

Based on the findings of the study, the following are recommended:

Mosques should engage professional sign language interpreters permanently, in collaboration with Deaf associations. This would ensure consistency and reliability in communication.

Religious content should be linguistically accessible using visual aids, slower-paced projections, and translations into simplified English or Ghanaian Sign Language where applicable.

Imams and congregants need targeted awareness training about the rights and capabilities of Deaf persons to dismantle harmful attitudes.

Female Deaf congregants should be accommodated through trained female interpreters or real-time video relay systems within the women's section.

Deaf Muslims must be involved in the planning, implementation, and evaluation of inclusive religious practices to ensure their needs are authentically represented.

Data availability

The data from this study are not publicly available due to ethical considerations and the need to protect participant confidentiality, particularly because of the identifiable nature of the qualitative data involving the participants. However, anonymised data may be made available on reasonable request from the corresponding author. Access to the data will be granted to qualified academic researchers who provide a sound data usage plan and have obtained approval from an appropriate institutional review board or ethics committee. All shared data will exclude any personally identifiable information and will comply with data protection policies in accordance with the principles of the Declaration of Helsinki and institutional ethical guidelines.

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Original Research Article

Barriers to Social Participation of Persons with Mobility Disabilities in the City of Accra, Ghana

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ABSTRACT

Background: In most parts of Africa including Ghana, disability is shrouded in discrimination and marginalization. This may be due to the etiological belief that disability is based on witchcraft or curses. It has been observed that in these countries, there is the lack of focus on ensuring that systems and structures are designed to accommodate individuals with disabilities, particularly those with mobility disabilities.

Aim: This paper explores the impact of physical and transportation access barriers on the social participation of individuals with mobility disabilities in Accra.

Method: Using the photo voice methodology, the researchers engaged 10 participants with mobility disabilities. The participants were trained in photography, provided with cameras, and encouraged to capture scenes about the built environment and transportation access challenges they faced regularly.

Results: The data (pictures) were analyzed with the participants' involvement and shed light on accessibility challenges faced by individuals with mobility disabilities and the impact on movement, security, safety, and social interactions at the mezzo and macro levels.

Conclusion and Implication: The policy of inclusivity is emphasized in ensuring that the needs of PWDs are taken into consideration to foster their rights as outlined in the Convention on the Rights of Persons with Disabilities and the achievement of the Sustainable Development Goals.

Keywords: Ghana, Disability, Photo-voice, Sustainable Development Goals, Discrimination, Marginalization, Inclusivity, Global South

BACKGROUND OF THE PROBLEM

Over the past decade, disability-based research has experienced a steady rise in the Global South, and Ghana is no exception. From 2009 to 2020, disability-based research in Ghana has more than tripled. Persons with disabilities (PWDs) in Ghana are finally able to share their experiences and influence stakeholders to initiate change through participatory action research. Much of this research highlights issues of accessibility, stigma and

discrimination, and poverty for PWDs. A primary issue of accessibility has been raised and legitimized through participatory action research. Through learning about the front-line issues of accessibility from PWDs, it has become apparent that Ghana's Disability Act (2006) has failed to protect the mobility rights of PWDs. According to the literature, general issues of accessibility include: 1) public toilets, 2) public transportation, and 3) public buildings (den Besten et al., 2016; Naami, 2019; Tijm et al., 2011). Ghana's Disability Act (2006) included a ten-year time frame for all public buildings to be reconfigured so that unrestricted access for PWDs would be available (Ocran, 2018).

Though there is ample research examining physical disability in the global south, more needs to be done (den Besten et al., 2016; Mfoafo-M'Carthy et al., 2020; Naami, 2019; Tijm et al., 2011). Persons with disabilities find themselves disenfranchised from society due to the inability to partake in activities of daily living and contribute to society. This is because of the lack of physical structures capable of accommodating individuals with physical disabilities. The absence of accessible physical structures makes it almost impossible for persons with mobility disabilities (PWMDs) to have a sense of belonging. Physical structures like wheelchair accessible buildings in public spaces like schools, banks, and government offices would ease the challenges of PWMDs in accessing such buildings without depending on others for assistance (Naami, 2022).

Also, public transportation services tend not to be equipped to make it necessary for PWMDs to have easy access. As a result, the majority of PWMDs rely on private services to move from one place to another (Naami, 2020, 2022). To eliminate participation barriers of individuals with disabilities in physical spaces, it is incumbent upon the creation of an environment, including public spaces that embrace PWMDs.

In Ghana, PWMDs reported experiencing a lack of accessibility to health care (Abrokwah et al., 2020; den Besten et al., 2016), as well as family members of PWMDs reported experiencing a lack of support in learning how to care for their family members (Opoku et al., 2020). Opoku et al. (2018) state that the lack of a formal social system in Ghana is likely the reason that families are alone in navigating a system built upon pre-existing barriers.

Disability-based research that examines relationships in a multi-layered approach would be beneficial. Examples of relationships include affiliations in one's immediate family; relationships with public systems (i.e., healthcare, education, work, and government); and relationships with society (popular culture and local rhetoric). Conducting disability-based research on a deeper level requires attention to the multi-layered identities and relationships that PWMDs encompass. In this paper, the authors used photo-voice methodology to examine the built environment and transportation challenges faced by persons with mobility disabilities and how these barriers affect their social participation.

METHODS

Study Design

We employed qualitative research design, specifically photo-voice methodology. The photo-voice approach was chosen because it is participatory, empowering, and gives a voice to the chosen population, who traditionally have little voice in policy and practice decisions (Wang & Burris, 1997). The methodology (Wang & Burris, 1994) was used to enable participants to tell their stories about access barriers they encountered daily. This enabled us to have a greater understanding of the issue under investigation (Nowell et al., 2006; Palibroda et al., 2009; Wang, 2006).

Participants

We collaborated with three organizations and, using purposive sampling, selected 10 participants. These organisations are (1) Ghana Society of the Physically Disabled, an association of persons with physical disabilities-Accra central chapter; (2) the Ghana Disability Forum, an umbrella organization of all persons with different forms of disabilities, individuals as well as organizations which have interest in advocating for disability rights; and (3) the Centre for the Employment of Persons with Disabilities, an organization that seeks to advance the employment of persons with all forms of disabilities. These organisations were selected because they work with persons with mobility disabilities. We were given a list of names of eligible participants whom we contacted for participation. Only those who volunteered to participate in the study were selected. The sample size allowed for in-depth discussion and analysis of data (Palibroda et al., 2009).

The ages of participants ranged from 26 to 47 years, SD 7.6 years. The mean age was 36.5 years. Four of the participants used wheelchairs, four used pairs of crutches, and one had a below-knee artificial leg. All the participants lived in the Accra Metropolis. Out of the 10 persons recruited, four were females and six were males. Two of the female participants had no formal education. Four participants (two males and two females) had basic education; one male participant had Senior Secondary School education; one female participant had a diploma, and two male participants were studying towards a Higher National diploma and a Bachelor of Arts degree. At the time of the study, two of the participants were students; four were self-employed; two worked for the government, and one was a Paralympic coach and advocate.

The study was given ethical approval by the Ethics Committee of the College of Humanities at the University of Ghana (ECH 027/17-18). Consent was sought from all the participants before the start of the first workshop. We read out the consent form to six participants who had less than or no education and took their thumbprints after they agreed to participate in the study. Four other participants read the consent forms and consented to the study by signing the consent forms. The data collected was kept on a password-protected computer, to which only we had access. The research was minimal risk, and no participant showed signs of distress during the study period. However, a list of resources was compiled before the study for any eventuality.

Table 1: Demographic information of participants

Demographic features		Male	Female
Gender		6	4
Educational status	No Formal education	0	2
	Basic Education	2	2
	Secondary Education	1	0
	Diploma	0	1
	Tertiary	2	0
Mobility aid used	Wheelchair	3	1
	Crutches	2	2
	Prosthesis for a below-knee amputee	0	1
Others	Participants who had a hunchback	1	0

Data Collection and Analysis

Two half-day workshops were conducted. During the first workshop, we trained participants in basic photography, ethics, photo captioning, narration, and analysis of the

content of the photos. We then gave them Sony digital cameras after they agreed to participate in the study. We then asked the participants to take pictures of anything/place that posed a challenge to their participation in society, indicate meanings and messages attached to those photos, as well as captions. The data collection lasted two months.

The second workshop was for data analysis. We grouped the participants in threes to discuss their pictures and narratives. The content and context of their photographs were discussed in smaller groups as well as the meanings and messages attached to the pictures, which were then related to their collective experiences; messages they wanted to communicate to the public through their pictures (Palibroda, et al., 2009; Nowell, Berkowitz, Deacon, & Foster-Fishman, 2006; Palibroda et al., 2009; Wang, 2006). We used the SHOWED framework in the analysis (Wang, 1999). 'SHOWeD:'What do you see here? What is really happening here? How does this relate to our lives? Why does this strength or problem/ concern exist? What can we do about it? There was a plenary group discussion where issues and recommendations arising from the group discussions were codified into themes. We later rearranged the themes developed from this section based on the contextual analysis and the participants' narrations.

RESULTS

The study revealed that environmental barriers, defined in this study as physical and transportation barriers, affect the social participation of persons with mobility disabilities in the Accra metropolis. The themes that emerged are discussed under movement, security and safety, parenting, participation in church activities and life events, "present but absent", and reliance on others. It is noteworthy that some of the pictures in this paper have been published in other works of the first author and would be referenced accordingly.

Movement

The main challenge to participation for PWMDs in this study was restriction in their movement due to transport and physical barriers. Starting from their homes through pathways to bus stops, entrances, and inside of buses, as well as entrances and inside of individual rooms in buildings, were all not accessible. Rocky, sandy, and muddy pathways (see Figure 1) from their homes cumulated in inaccessible bus stops, and entrances of buses (see Figure 2; Naami, 2022) and buildings (see Figure 3).

Figure 1: Inaccessible Pathway

Figure 2: Inaccessible Transit Bus

A great deal of time and effort was expended to access their environment, which was not accessible, sometimes tiring, and necessitated several stops to their destinations, and most times affected their physical health.

A male participant, who uses crutches, shared his experiences using crutches to climb steps and stairways.

> *You can imagine me on my crutches going to the fourth floor. In fact, I spent a lot of time climbing the stairs. I even fell at a point during the journey, between the third and fourth floors. Everyone around me felt so bad, and so did I. Due to the many stairs that we had to climb to get to the fourth floor, by the time we got to the place for the meeting, I was so exhausted. I had to ask the others for some time to recover from my tiredness before the meeting. I sat down and rested for about 30 minutes before we could start the meeting. When we were having the meeting, in fact, my mind wasn't on the meeting. You can guess what I was thinking about. I was thinking about how I would make my way back through the four floors to the ground floor.* (Participant 1, male, uses crutches).

Figure 3: Lecture Halls

Security and Safety

As participants struggled with access barriers regularly, there was concern for their security and safety. Several forms of insecurity were identified in this study, arising from diverse perspectives, including the lack of and crowded sidewalks, using major roads, short-programmed traffic lights, open drainage, and falls and injuries. All of these affected the effective participation of PWMDs in society.

Lack of Crowded Sidewalks

The study showed that sidewalks were rare in the places that the participants frequented. The few that existed were either not thorough, had no curb cuts, and/or were

crowded with obstacles such as trees, poles, or were broken or had holes that rendered them unusable and unsafe, and restricted participation. See an example in Figure 4.

Figure 4: Sidewalk inhibited with potholes and poles

A female participant who uses crutches narrated her ordeal using inaccessible sidewalks.

> *I always heave a sigh of relief anytime I see a sidewalk because it means that I can get off the major road to reduce the risk associated with walking on it. However, from my experience, there are very few sidewalks, and the few that exist are not accessible due to the obstacles found on them, as seen in this picture. This makes it difficult for me to use sidewalks because it becomes difficult to get off when there are obstacles. I am compelled to risk my life on the major roads, and that is unfair. I am also a human being, and my life matters.* (Participant 2, female, uses crutches).

Use of Major Roads

The lack of, and crowded sidewalks (see Figure 4), forced participants to use major roads/streets regardless of their safety concerns. Three sources of fear were identified in using major roads: (1) The fear of falling into open gutters, which are very common in Ghana (see Figure 5; Naami, 2019), (2) running into reckless drivers and motor bicycle riders, and (3) unmotorable roads resulting from sand and garbage from open gutters that were not distilled.

Figure 5: Open Gutter

Short programmed time for Traffic Lights

The timing for pedestrian crossing at traffic lights seemed too short to cross the dual-carriage roads, amidst impatient pedestrians and their loads. The other aspect of insecurity arising from traffic lights, which affected both wheelchair and crutches users, regards impatient drivers who did not yield to pedestrians when the lights turned green.

> *The road is double, and I believe the time programmed for pedestrians to cross the road is not enough to allow a person with a disability to cross the road in the midst of other busy pedestrians, including those carrying loads. Sometimes, when I get to the middle of the road, I have to stop and give way to vehicular traffic because the light turns green for vehicles to move, and the impatient drivers would not wait even for a second for me to finish crossing.* (Participant 3, male, uses crutches).

Falls and Injuries

Falls were a safety concern and resulted from inaccessible environments such as steps, stairways, steep/narrow ramps, smooth tiles mixed with splashes of water or raindrops, as well as inaccessible buses and *trotros (public transport)*. The risk of falls experienced by individuals who used wheelchairs resulted from the help they received from people who, most time, were not knowledgeable about helping individuals who use wheelchairs. Participants claimed that some of the falls resulted in injuries.

> *I use this pathway regularly from my house to the main streets to continue my journey to wherever I choose to go. It is rough and rocky and difficult for me to use. The nature of the pathway obstructs my movement and sometimes makes me fall. I have fallen not once or twice, but countless times. When it happens like that, I look at my surroundings to see if anyone is looking at me. It is shameful when that happens. One day, the fall resulted in an injury. I went straight home, cleaned the wound, and took care of myself. I couldn't complain to anyone. At that moment, I felt bad that even the road that I could use was rough. To me, it means everything around me is not working* (Participant 4, female, uses an artificial leg).

Parenting

Barriers affected parenting roles that participants could otherwise have played without much difficulty if the environment were accessible. The study participants endeavoured to play their parental roles as prescribed by society, sometimes overcompensating for their disabilities because they did not want to be seen as "asexual" or "weak." However, most times, barriers hindered or interrupted their successful completion of these roles. Parenting roles regarding buying for and participating in their children's school activities were identified in this study.

In his attempt to purchase a school uniform for his daughter, Participant 5 narrated his ordeal of getting stuck in the middle of the road as given below:

> *This is a huge gutter in the middle of the road in the heart of Makola, the biggest shopping area in Accra, the capital city of Ghana. When I got to the gutter, people around me saw the shock on my face because I didn't expect that there would be such a big gutter in the middle of the road. There was an old lady there, so I begged her to go and buy the uniform for me. I didn't want to go back home without it. Why should I send that old lady who is my mother's age? Should it be like this in our society?* (Participant 5, male, uses a wheelchair).

An inaccessible built environment resulted in limited interactions (such as checking their children's academic progress) of parents with disabilities and irregular attendance at Parent Teacher Association meetings. Two parents with disabilities commented on their experiences below:

> *I am also a parent, but I cannot track my daughter's academic progress like everyone else due to the inaccessible nature of the school environment. One day, I went to see the headmaster of*

> *the school about an issue concerning my daughter's education. When I arrived at the office entrance, I realised I couldn't go inside, and I asked myself, "Eeeiii, how can I climb?" I stood in front of his office and called him. And when he came out, I told him that I couldn't enter his office, and he said, "Sorry, sorry, sorry". We stood outside and spoke.* (Participant 6, female, uses crutches).

> *This is the primary school where my daughter goes. This school is designed for able-bodied people. I always need help to get into the school anytime I go there in connection with my daughter's education. I think going there is a punishment for parents with disabilities.* (Participant 9, male, uses a wheelchair).

In other instances, the parents with mobility disabilities could not leave their homes, regardless of their strong desire to play their roles. Instances were when it rained, mirroring the adage "The spirit is willing, but the flesh is weak." However, their children seem to understand their challenges and cooperate with them, as stated by Participant 6 below:

> *Anytime it rains, I am afraid to come out of my room because I am scared that I might fall. I have to beg people to take my daughter to school, but sometimes she insists that I go with her. I have to plead with my daughter to understand that Mummy cannot take her to school on that day because Mummy may fall. One thing about my daughter is that she hates to see me fall. I explained to her that I might fall due to the rain, and when that happens, people will stare at me, and that is why someone else must take her to school.* (Participant 6, female, uses crutches).

Participation in Church Activities and Life Events

Participation in Church Activities

The Church presented limited opportunities for participation by PWMDs. Inaccessible entrances and restricted movement within church premises affected the participation and interactions of PWMDs. Participants reported that they could not even use their God-given talents to benefit the church and to develop useful social networks, such as joining church groups, e.g., the choir, for their spiritual growth and well-being.

An example is Figure 6, Participant 6 narrated her experience of untapped talents below:

> *The staircase that leads to where the choristers sit at my church…is not accessible. I have always wanted to join the choir in my church, but the staircase prevents me from doing that…I am unable to use my talent to worship and praise God. I sometimes feel I can and even do more than what the choristers do, but then the stairway is preventing me from doing so. It makes me feel more concerned about my disability, in that, even in the house of God, I am unable to exhibit my talent*. (Participant 6, female, uses crutches).

Figure 6: Inside a Church Building: Choristers' Seating Area

In another scenario, a mother narrated how she was prevented from interacting with other mothers in the church due to access barriers. The Church had a seating area where all mothers sit and interact with one another, interactions that could be helpful for parents. Participant 6 narrated the effects of this isolation on her life below:

> *The steps and floor leading to the mothers' seating area in the church are very smooth, but that is the shortest entrance to the area. I tried using the accessible entrance, which is in the main church, and I encountered other accessibility issues; not only is it a longer route, but the inside of the auditorium is made of smooth tiles. So, when I put my crutches down, I have to hold firmly to the wall before I can enter the church auditorium. The mothers' seating area, from the main auditorium, ends up with steps too. Every mother sits there, and if I do not, it seems I am not part of them. I am a mother too, and this situation makes me feel that I am not part of them. I am very unhappy; I feel very bad. This is a church I attend, and I have reported this issue, but they have not done anything about it*. (Participant 6, female, uses crutches).

Participation in Life Events: "Dwene Woho" [Mind your business]

In Ghana, events such as marriages, baby naming ceremonies, and funerals are occasions for socialisation because families and friends gather to honour their loved ones. The study found that barriers not only challenged PWMDs to organise their own events but also prevented them from effectively participating in other events.

For instance, one of the participants narrated his ordeal in an attempt to buy the list of items prescribed by the would-be bride's family, a usual practice in Ghana. The would-be groom would get a list of items from the would-be bride's family, which he would present to formalise the traditional marriage. In his narration captioned "You think I cannot marry?", Participant 5 gives a vivid example of how barriers could limit PWMDs from preparing and organising their marriage events.

> *They pretended to have fixed ramps, but the ramps were filled with air conditioners. I went there because I wanted to check on rings as my marriage was approaching. When I got there, I couldn't enter because the air conditioning had taken over the ramps. So, I called one of the workers from where I was standing, but he didn't want to come. I kept bugging him, so he finally came, and I told him, "See what you have done here!". I showed him the air conditioners and how they were hindering my movement. "I cannot enter this place. Why do you think I can't marry?" I told him to call his boss for me, and he said, "My boss won't come", and I still asked him to go and call his boss. He went, but the boss didn't come because he said he was busy. With this kind of behaviour and environment, how do we get married? The preparation*

would be delayed, and the other family would say it is because you are disabled. Otherwise, you would have to send someone to get the items for you, and you may not get exactly what you want. (Participant 5, male, uses a wheelchair).

Figure 7: Inside of a Church Building

Another instance of restricted participation and interactions at life events happened during the funeral services. Arrangement of chairs, musical instruments, and accompanying wires, which were usually exposed everywhere, limited movement for PWMDs as in Figure 7 (Naami, 2019).

Participant 6 described the difficulty of moving to the podium to read a tribute for the departed member.

We went to a Church in Adabraka for the funeral of one of our members (Ghana Society of the Physically Disabled). There were open wires everywhere on the podium. On top of the open wires was a huge step. You could see how our members who read our tribute struggled through the wires and the steps to get to the pulpit to read our tribute. I felt heartbroken about the degree of insensitivity to disability issues in this country. (Participant 6, female, uses crutches).

In other instances, PWMDs were physically present at certain events and took part in some aspects of programmes, but were restricted from taking part in others. Examples are wedding receptions held in different locations from the actual ceremonies. Some participants reported that they were compelled to either eat their food downstairs or return home with or without refreshments.

This is a place where wedding receptions are held. I went there for a friend's wedding reception, and the stairway leading to the reception was inaccessible. When the event planners saw that I couldn't go upstairs and wanted to go home, they asked me to wait so that they could bring me food. But, I didn't wait for them; I felt rejected at the place, so I left without the food. (Participant 9, male, uses a wheelchair).

The final restricted interaction at events was constructed as "Dwene woho" in the Akan Ghanaian Language, which means mind your business. Going to events that were even accessible was against societal norms, as society perceives persons with disabilities as "weak" and "sick" people whose place should be the home. Thus, efforts to attend inaccessible social and recreational events were questionable, as noted by Participant 3.

There is also some sort of perception that a person with a disability should stay home. "Why would they bother themselves to attend such events?" (Participant 3, male, uses crutches).

"Present but Absent"

Participants were physically present in several business environments, including food vending, phone selling, computer repairs, internet cafés, and malls; places that could have served as platforms to connect buyers and sellers to foster informed decisions about products and probably boost sales. However, the inaccessible environment prevented this benefit. See examples from the narratives below:

> *This is a place where food is sold. I sometimes buy food from there after church. I usually stay in the vehicle and ask someone to buy the food for me. At times, I want to go there myself and interact with the food vendor and other buyers, and also see what exactly she sells so that I can make an informed choice. I am very friendly and would like to talk to everybody I meet, but it has become impossible for me.* (Participant 9, male, uses a wheelchair).

> *This is where I go when I have issues with my laptop. Whenever I visit the shop, people have to hold my hands and help me climb the stairs to the shop. At times, they have to take the laptop from me and ask me to wait downstairs. This means I cannot communicate with the repairer personally*. (Participant 10, male, walking with difficulty).

Also, the participants stated that they could not directly interact with public officials due to access barriers. They complained that duty bearers did not make any efforts to reach out to them, but used intermediaries, which increased bureaucracy and delayed processes. A situation that Participant 4 claimed was frustrating, as narrated in the example below.

> *This is the Ministry of Gender, Children, and Social Protection. It annoys me that the ministry that is supposed to be in charge of disability issues is not accessible. How can a person with physical disability and in a wheelchair like me see this minister with this kind of structure? How can I be a part of you if I have to struggle to climb stairs to see you? There was a time when I got sports equipment shipped to me from abroad. I needed to go to this ministry to get permission to clear the goods free of charge. It took me forever to get the clearance because I couldn't go up there to see those in charge. Even the Department of Social Welfare…The department responsible for the welfare of persons with disabilities is not accessible…I am unemployed because I am tired of going there to find people in order to talk to them. When I stay downstairs and ask for them, I am always told they are not around, but how can I challenge that when I am prevented from seeing and knowing what is actually happening up there? (*Participant 4, male, uses a wheelchair).

Relying on Others

Persons with mobility disabilities depended on others to complete tasks such as boarding and getting off of vehicles, entering buildings, buying things, getting potable water, and other little things they believed they could do on their own, such as buying food from vendors on the roadside. Their lives practically revolved around others. Nonetheless, help did not always come on time. Participant 8 stated how sometimes he waited for several minutes before getting help and how he felt more dependent and excluded (see the photo in Figure 8 by Participant 8).

> *But when I got to the entrance of the hall, I realized that it wasn't accessible, and I was going to deal with it for 4 years; the joy that I had all vanished. I was filled with sorrow. ...Coming in and out of the hall with a wheelchair has been a huge challenge for me all these years. I can't*

do it on my own. I always have to wait for people to get me in and out of the hall to go to lectures and to the library. So any time I want to go out, if my friends are not around, I just have to hope and pray that someone will meet me at the entrance and help me. I feel excluded, dependent, and like a burden on others. I feel trapped since someone has to help me before I can go in and out of the hall. So I don't consider extracurricular and other educational activities. They are not a luxury for me. (Participant 8, male, uses a wheelchair).

Figure 8: Entrance of a Hall of Residence

DISCUSSION

The study suggests that, although impairment of PWMDs could sometimes restrict their movement, the major impediment to their participation in mainstream society is "man-made", which is referred to as physical and transportation barriers. They navigate inaccessible environments from their homes to bus stops and inaccessible buses that necessitate that PWMDs crawl and/or be helped to board. Additionally, a great deal of time and effort was spent in transit and navigating the inaccessible environment.

The restricted environment was also a source of concern for the security and safety of PWMDs because it caused falls and injuries. They also affected time spent in transit because of the usage of longer routes, spending more time accessing barriers, and/or spending more time waiting for help to board buses. The findings also revealed that PWMDs got tired and/or experienced excruciating bodily pain at the end of their trips due to the insurmountable barriers they navigated. Although private transport services such as Uber and Taxis are expensive, it was a necessity for PWMDs to avoid being late for programmes and/or to minimise the inconveniences that accompanied excessive time spent accessing inaccessible environments, which further affect their meagre and irregular income and increase their economic vulnerability (Naami, 2015; WHO, 2011; United Nations, 2013).

Persons with disabilities are regarded as asexual and individuals who cannot perform societal roles (MacInnes, 2011; Mehotra, 2004) and which affects their marital endeavours. This study revealed that access barriers affected formalising intimate relationships as well as performing gender roles. It is noteworthy that, contrary to other studies (Mahotra, 2004), which cite the impairment of persons with disabilities as barriers to performing gender roles, this study cites access barriers.

Parents with disabilities encountered challenges performing their roles, such as taking their children to school, buying necessities for them, and attending PTA meetings. The study, therefore, suggests that access barriers reinforce negative perceptions about the capabilities of persons with disabilities to develop and maintain intimate relationships as well as perform their parental roles.

International and local legislations emphasise a barrier-free environment for the inclusion of persons with disabilities in their communities and cities. For example, Article

19 (c) of the Convention on the Rights of Persons with Disabilities requires states to ensure, "*Community services and facilities for the general population are available on an equal basis to persons with disabilities and are responsive to their needs.*" Goal 11 of the Sustainable Development Goals (SDGs) mandates states to: "Make cities and human settlements inclusive, safe, resilient and sustainable." Further, the Persons with Disability Act 715, Sections 6 and 7 also reiterate access to public services and buildings for persons with disabilities. However, the study found that several environments, including schools, government offices, shops, and events, were not accessible for PWMDs. In addition, Churches and other religious activities were also not accessible.

Ghana, being a religious country, one would have thought that efforts would be put in place to ensure that everyone participates in such activities. However, the study demonstrates that restrictions placed on the entrances and inside of Church premises hinder freedom of worship and most likely affect the spiritual growth of PWWDs, which validates other studies indicating the lack of opportunities for the spiritual growth of persons with disabilities (Hurst, 2007). Furthermore, meaningful social interactions that could boost social networks and strengthen social capital were affected by environmental barriers.

Nonetheless, the study indicates that PWMDs were resilient. Some defied the odds of restricted environment and inaccessible transport systems, which sometimes resulted in falls and injuries, longer times spent in transit, fatigue, and excruciating bodily pain, in addition to negative societal attitudes to participate and/or organise events. One attitudinal issue that stood out in this study is the "Dwene woho" concept, which means mind your business, drawn from the perception that PWDs are "weak", "sick", and "pitiable" and should be catered for (Naami, 2014; Slikker, 2009). Thus, going to events that were even accessible was questionable, let alone events that were inaccessible.

Study Limitations

Low literacy among the target population was a challenge for the data collection. During the data collection, the researchers had a one-on-one meeting with the participants to back up data to prevent data loss. During these visits, we realized that most of the participants could not journal their experiences, which hampered photo taking. Out of the ten participants, only two could write out their narratives. An additional two wrote a few narratives. However, we suggested audio-recording to the participants who could not write their narratives, and they agreed. They chose the times and places convenient for downloading their pictures and audio recording their narratives. The audio-recorded data were transcribed, and the participants validated their stories. Member checking is important to ensure the trustworthiness of a study (Lincoln & Guba, 1985).

CONCLUSION AND RECOMMENDATIONS

Persons with mobility disabilities in Ghana have limited access to social participation due to restricted mobility. Although their impairment could sometimes restrict their movement, the study concludes that the major impediment to the social participation of PWMDs in mainstream society is "man-made," which is referred to as physical and transportation barriers created by society. The barriers not only affect travel time and efforts, but also security, safety, and health, economic, and interactions of PWMDs at all levels in society. It is also noted that stigma associated with disability plays a significant role, at all levels, in the neglect of PWMDs, but they have proved to be resilient amid neglect, as some defied odds of restricted environment and inaccessible transport systems, as well as negative attitudes, to make ends meet. The environment must be free from barriers to effectively include persons with disabilities and to enable them to freely participate in their communities sustainably, as suggested in Goal 11 of the SDGs: "Make cities and human settlements inclusive, safe, resilient and sustainable." The authors therefore recommend that the government be held accountable to cater to the needs of PWMDs. This will

include advocacy and working with organisations of persons with disabilities, civic society, and other community organisations to ensure that transportation, roads, and physical spaces, specifically, government structures, are equipped to accommodate PWMDs.

We also conclude that photo voice is necessary for Global South research with persons with disabilities, who are more marginalized, oppressed, and over-represented among the poor. This is because photo voice promotes the active involvement of participants, thereby empowering them. For example, although many of our study participants did not have higher education, through photos, they were able to express their experiences about the barriers they faced. Through taking and self-expression of photos, the study fostered the self-esteem of the participants, as well as developed their team-playing abilities through group discussions at the analysis stage. The project also enhanced the creative skills of participants, which were exhibited in the kinds of pictures they took, the captions, and narrations.

No Conflict of interest to declare

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Original Research Article

Burden on Families of Children with Hearing Impairment and Intellectual Disability

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ABSTRACT

Aim: The immediate families and/or caregivers of persons with disabilities often experience lifestyle changes that may manifest in the form of financial burden, restricted or dysfunctional family interactions, altered physical and mental health, etc. Similar problems are also faced by parents who have a child with disability. Though there are reports of changes in the lifestyle of parents of a child with an impairment/s, it is important to quantify and characterize the burden. This would, in turn, help in counseling.

Objective: To quantify third party burden in parents of children with intellectual disabilities and parents of children with hearing impairments, and to compare the groups.

Methods: Sixty-five parents were interviewed using the Family Burden Scale developed by Pai and Kapur (1982). Twenty-one parents had typically developed children, twenty-three parents had children with intellectual disabilities, and twenty-one parents had children with hearing impairments. The mean age of the children was 4.7, 6, and 4.8 years, respectively. Statistical analysis involved MANOVA to compare group data across subcategories and total scores, with Bonferroni-corrected post hoc tests applied as needed.

Results: Parents of children with disabilities suffer significantly more burden than parents of typically developing children. Parents of children with intellectual disabilities face more burden than parents with hearing impairment. Among the various contributors to the burden, the financial burden was found to be the highest.

Conclusion and implications: Parents of children with disabilities have to be made aware of the possible impact of having a child with disability in their family and how to handle such an impact. It is of utmost importance for any professional to look for the possibility of referring the parents to a psychologist.

Keywords: Low- and Middle-income countries, Central America, Disability, Community-Based Inclusive Development, Community-Based Rehabilitation

INTRODUCTION

Third-party disability (TPD) was a term coined by the World Health Organization (WHO, 2001) to describe the experiences or burdens of the immediate family or caregivers

of a person with disability which manifests as 'a range of activity limitations and participation restrictions due to their partner's physical impairment, including a variety of stresses involving lifestyle changes, communication difficulties, and emotional consequences'. This is seen in the form of financial burdens, reduced social interaction, strain in relationships, and overall quality of life. Similar burdens have been reported by spouses of individuals with other conditions, such as traumatic brain injury, aphasia, dysphagia, etc. Changes in social interaction, bitterness and irritability towards the partner, difficulties with activities of daily living and household chores for themselves, and communication difficulties are most commonly reported by these individuals (Malone et al., 1970; Webster & Newhoff, 1981; Coutts & Sayed, 2023). Scarinci et al. (2011) reported that 98% of spouses of older adults with hearing impairments reported TPD, with a majority reporting mild disability. TPD was assessed in close partners of persons with hearing impairments scheduled for cochlear implant surgery. The authors concluded that third-party burden was persistent even 6 months post-cochlear implantation (Völter et al., 2023). Studies show that the spouses of individuals with hearing impairments have to take an additional role, in addition to the communication problems that arise due to hearing impairment (Anderson & Noble, 2005; Piercy & Piercy, 2002). This leads to distress and reduced quality of life for them. The extent of TPD in these individuals is affected by the degree of hearing impairment of their spouses (Nandurkar & Shende, 2020). Partners of individuals with tinnitus also report TPD, the extent of which is influenced by their partners' tinnitus severity, anxiety, and hyperacusis (Beukes et al., 2023). Sen and Yurtsever (2007) reported that parents also face similar problems when concerned with a child with disability. The parents reported that their social life, work life, financial situation, and family relationships were negatively affected.

Parents of children with intellectual disabilities perceived greater financial burden, disruption in family routine, reduced social interaction, and greater negative effects to mental and physical health than parents of healthy children (Singhi et al., 1990). Mothers of children with intellectual disabilities also reported increased perception of family burden and decreased life satisfaction compared to mothers of typically developing children (Akarsu & Kostak, 2022). Though there are reports of changes in the lifestyle of parents of children with impairments, it is necessary to quantify and characterize the burden. This would be useful in counseling. Moreover, parents of children with different disabilities undergo different levels of lifestyle changes.

Further, studies that imply the TPD in the Indian context are scarce. The Indian population has more differences from the studied populations, as India is a developing country with a culturally diverse population. Furthermore, there is a lack of insight into this topic concerning children with hearing impairments and their parents. Hence, it is essential to quantify and also know which group of parents is likely to suffer more, which in turn would help to track the reasons and, thus, the possible solutions. It is, thus, important to quantify third-party burden on parents of children with intellectual disabilities and parents of children with hearing impairments and compare with the parents of typically developing children, and also between the parents having children with two different disabilities.

METHODS

Study area

The family burden in terms of financial, interpersonal relationships in the family, physical and mental health of the family members of a child with hearing impairment, or a child with intellectual disability, in comparison to family members of a typically developing child, is assessed in this study.

Design

This study employed a non-experimental standard group comparison design.

Population and sampling technique

Non-random purposive sampling was done to select the participants. A total of 65 parents were selected and interviewed. Out of which 21 were parents of children with hearing impairments, 23 were parents of children with intellectual disabilities, and 21 were parents of typically developing children. All the children with intellectual disabilities or hearing impairments had a disability greater than 40% and were attending a preschool for children with special needs.

Instruments of data collection

The Family Burden Scale, developed by Pai and Kapur (1982), was adopted to assess the parents. The questionnaire was adapted to suit the demographics of the population interviewed.

Data collection procedures

Parents of children with hearing impairments, children with intellectual disabilities, and typically developing children were interviewed using the Family Burden Scale. The questionnaire has a total of 24 questions under 6 sub-categories. These subcategories are financial burden-6 questions, disruption of routine family activities-5 questions, disruption of family leisure-4 questions, disruption of family interaction-5 questions, effects on physical health of others-2 questions, and effects on mental health of others-2 questions. The number of questions under each category is not the same. The questionnaire also has a question that facilitates obtaining an open-ended response that can also contribute to the family burden, not included in the questionnaire. Each of the responses was assigned a score for analysis, i.e., 0 for 'No', 1 for 'Moderate burden', and 2 for 'Severe burden' as recommended by the authors. Thus, participants who scored higher reported a greater extent of disability. The overall score for each participant was calculated along with the percentage of burden in each group. The contribution of each subcategory to the overall family burden for each group was also calculated.

Analysis

Statistical analysis was carried out using SPSS version 26 software. MANOVA was done to compare the data obtained across the groups for each subcategory and the total scores obtained. Post hoc comparisons with Bonferroni corrections were used when appropriate to identify the groups' differences.

Ethics

Informed consent was obtained from the participants prior to questionnaire administration. Privacy and confidentiality of the participants and their data were assured.

RESULTS

The mean ages of the children were 4.7, 4.8, and 6 years in the normal, the group with hearing impairment, and the group with intellectual disability, respectively. The demographic details of the children are given in Annexure 1. The parents' ages ranged from 30 - 40 years. The mean scores for each subcategory and the total scores obtained in each group are given in Figure 1. Inferential statistical analysis results to see the significant difference across the groups are given in Table 1. The results showed a statistically significant increase in the burden on parents of children with disabilities when compared to the typically developing children. However, the mean total score was higher in the parents of children with intellectual disability group (11.95) than in the children with hearing impairment group (9.04). This was much greater than the mean total score of the typically

developing group (0.35), which is negligible. The partial Eta squared values for the comparisons indicate that, with the exception of 'disruptions to family interactions,' which demonstrated a medium effect size, all other categories in the questionnaire showed large effect sizes (Table 1). The contributions to the burden are financial burden, disruption of routine family activities, disruption of family interaction, disruption of family leisure, effects on physical health, and effects on mental health, in descending order of contribution to the overall burden. This can be seen in Fig. 1. The financial burden was the major factor that contributed to the family burden than other factors. Parents of children with hearing impairments scored more in expenditure related to treatment and additional arrangements that they had to make. In contrast, parents of children with intellectual disabilities are equally affected in all parameters considered under financial burden, while effects on physical health were the least contributing factor, which mainly focused on the effect of family members' health. This was similar in both parents of children with intellectual disabilities and children with hearing impairments. Both groups of parents were reported to be similarly affected by the respective disability in the disruption of routine family activities and the disruption of family leisure time parameters. However, the contribution of the above-mentioned factors was more for parents of children with intellectual disabilities than for children with hearing impairments. With respect to the disruption of family interaction, both the parent groups with children with disabilities performed equally. The subcategory on the effect on mental health of family members revealed that parents with children with intellectual disabilities are affected more than parents with children with hearing impairments. Table 2 shows the post hoc comparisons of the scores obtained between any two groups.

The questionnaire also had a section where parents had to share other factors that can potentially increase the risk of family burdens that were not listed. Most of the parents of both groups raised similar issues. They expressed their feeling about not being able to focus on their career, not being able to take care of other kids, fluctuation in blood pressure, stress, and sleeplessness. However, parents of children with intellectual disabilities also reported concerns about the future of their child and not being able to care for their spouse and family members.

Annexure: Table containing the demographic details of the children with normal abilities, children with hearing impairment, and children with intellectual disability. HI- Hearing Impairment, ID-Intellectual Disability, NA- Not applicable

S.No.	Age (in years	Age of Onset	Gender	Disability	Informant	Type of family
1	5	Congenital	Male	HI	Mother	Joint
2	7	Congenital	Male	HI	Mother	Nuclear
3	6	Congenital	Male	HI	Mother	Joint
4	4	Congenital	Male	HI	Mother	Nuclear
5	4	Congenital	Female	HI	Mother	Nuclear
6	6	Congenital	Female	HI	Mother	Nuclear
7	4	Congenital	Male	HI	Mother	Joint
8	6	Congenital	Male	HI	Mother	Joint
9	5	Congenital	Male	HI	Mother	Joint
10	4	Congenital	Female	HI	Mother	Joint
11	5	Congenital	Male	HI	Mother	Joint
12	3	Congenital	Male	HI	Mother	Joint
13	4	Congenital	Male	HI	Mother	Nuclear
14	3	Congenital	Male	HI	Mother	Joint
15	5	Congenital	Male	HI	Mother	Nuclear
16	6	Congenital	Female	HI	Mother	Nuclear

17	4	Congenital	Male	HI	Mother	Nuclear
18	4	Congenital	Female	HI	Mother	Nuclear
19	6	Congenital	Male	HI	Mother	Nuclear
20	4	Congenital	Female	HI	Mother	Joint
21	6	Congenital	Male	HI	Mother	Nuclear
22	6	Congenital	Male	ID	Mother	Joint
23	4	Congenital	Male	ID	Mother	Joint
24	6	Congenital	Male	ID	Mother	Nuclear
25	7	Congenital	Male	ID	Mother	Joint
26	6	Congenital	Male	ID	Mother	Joint
27	8	Congenital	Male	ID	Mother	Joint
28	7	Congenital	Female	ID	Mother	Joint
29	7	Congenital	Male	ID	Mother	Nuclear
30	7	1 year	Male	ID	Mother	Joint
31	6	7 months	Male	ID	Mother	Nuclear
32	4	2 years	Male	ID	Mother	Nuclear
33	5	1.5 years	Female	ID	Mother	Nuclear
34	7	9 months	Female	ID	Father	Joint
35	9	1 year	Male	ID	Mother	Nuclear
36	8	1.5 years	Female	ID	Mother	Nuclear
37	6	1 year	Male	ID	Mother	Nuclear
38	6	1.5 years	Female	ID	Mother	Nuclear
39	6	Congenital	Male	ID	Mother	Nuclear
40	5	Congenital	Male	ID	Mother	Nuclear
41	4	1.5 years	Male	ID	Mother	Joint
42	5	9 months	Female	ID	Mother	Joint
43	3	1 year	Female	ID	Mother	Nuclear
44	6	NA	Male	Normal	Mother	Nuclear
45	4	NA	Male	Normal	Mother	Nuclear
46	4	NA	Male	Normal	Mother	Nuclear
47	6	NA	Female	Normal	Mother	Joint
48	4	NA	Female	Normal	Mother	Nuclear
49	6	NA	Male	Normal	Mother	Nuclear
50	5	NA	Female	Normal	Mother	Joint
51	4	NA	Female	Normal	Mother	Joint
52	5	NA	Female	Normal	Mother	Nuclear
53	3	NA	Female	Normal	Mother	Nuclear
54	6	NA	Male	Normal	Mother	Joint
55	4	NA	Female	Normal	Mother	Nuclear
56	6	NA	Female	Normal	Mother	Joint
57	5	NA	Male	Normal	Mother	Joint
58	4	NA	Female	Normal	Mother	Nuclear
59	6	NA	Male	Normal	Mother	Nuclear
60	5	NA	Female	Normal	Mother	Joint
61	4	NA	Female	Normal	Mother	Joint
62	5	NA	Female	Normal	Mother	Nuclear
63	3	NA	Female	Normal	Mother	Nuclear
64	5	Congenital	Male	HI	Mother	Joint

Table 1: F value with the degrees of freedom, significance level, and the partial Eta squared values for the total scores and the scores for each subcategory across the groups.

Category	Degrees of freedom (df)	F value	Significance value	Partial Eta Squared
Total score	**2,60**	**16.802**	**0.000**	**0.359**
Financial Burden	2,60	19.330	0.000	0.392
Disruption of routine family activities	2,60	11.732	0.000	0.281
Disruption of family leisure	2,60	12.357	0.000	0.292
Disruption of family interaction	2,60	2.825	0.067	0.086
Effect on the physical health of others	2,60	11.221	0.000	0.272
Effect on the mental health of others	2,60	12.391	0.000	0.292

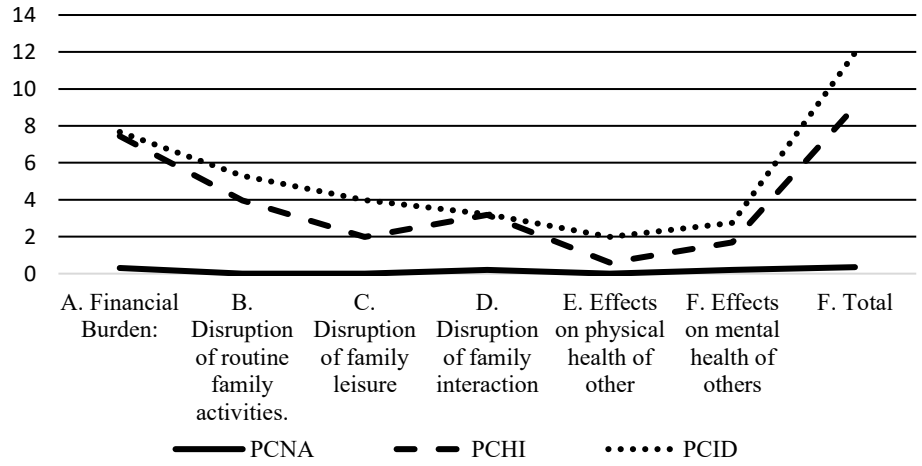

Figure 1: Score of the parents of normal children (PCNA), parents of children with hearing impairment (PCHI), and parents of children with intellectual disability (PCID) on the subcategories of the Family Burden Scale.

Table 2: Post hoc comparisons with Bonferroni corrections for the total score and the scores of the subcategories between the parents of children with normal abilities (PCNA), parents of children with hearing impairment (PCHI), and parents of children with intellectual disability (PCID).

Category	Comparison	Mean difference	*p* value
Total score	**PCNA-PCHI**	**8.69**	**0.000***
	PCNA-PCID	**11.60**	**0.000***
	PCHI-PCID	**2.90**	**0.480***
Financial Burden	PCNA-PCHI	7.12	0.000*
	PCNA-PCID	7.35	0.000*
	PCHI-PCID	0.22	1.000
Disruption of routine family activities	PCNA-PCHI	3.96	0.003*
	PCNA-PCID	5.30	0.000*
	PCHI-PCID	1.33	0.710
Disruption of family leisure	PCNA-PCHI	1.98	0.051

	PCNA-PCID	3.97	0.000*
	PCHI-PCID	1.99	0.043*
Disruption of family interaction	PCNA-PCHI	2.96	0.136
	PCNA-PCID	3.01	0.120
	PCHI-PCID	0.04	1.000
Effect on the physical health of others	PCNA-PCHI	0.59	0.539
	PCNA-PCID	1.98	0.000*
	PCHI-PCID	1.39	0.006*
Effect on the mental health of others	PCNA-PCHI	1.47	0.017*
	PCNA-PCID	2.53	0.000*
	PCHI-PCID	1.05	0.120

*- significant difference; $p< 0.05$

DISCUSSION

Parents of children with a hearing impairment or intellectual disability showed significantly greater family burden than parents who had typically developing children. Similar findings were reported by Singhi et al. (1990). They mentioned that families with children with disabilities experienced more financial burden, disruption of family routine and leisure, affected social interaction, as well as negative impacts on their physical and mental health in comparison to the families of typically developing children.

Parents of children with intellectual disabilities faced more burden than parents of children with hearing impairments. This was observed on all the sub-categories of the scale. Children with hearing impairments are physically and intellectually able to be independent, with only communication being affected. However, children with intellectual disabilities are more dependent due to reduced intellectual ability. The former can also perform daily activities independently compared to the latter. Thus, a lower psychosocial impact on the parents of children with hearing impairments than on parents of children with intellectual disability is expected.

Financial burden was the major contributor to the overall burden in the parents of both the disabled groups. Families with children with disabilities often sacrifice their earning capacity to care for the child's needs. Forty-three percent (19/44) of the families in this study gave up at least one of the parents' salaried jobs to look after their children. This, and the extra expenditure on account of the disability, increases the financial implications on the family (Baldwin, 2015; Hung et al., 2010).

Families of children with disabilities faced disturbed functioning of the family. This can be seen in the disruption of family activities, leisure, and interactions. This has been reported in the form of seclusion of the family by extended family members, and abandonment of recreational/ leisure activities of the family members to accommodate the child's needs.

From the data, we can also see that the physical health of the parents was the factor that contributed minimum to the overall burden. This is because their child's disability may increase psychological stress; however, it may not contribute significantly to deteriorating their physical health. They remain in similar health as they were before.

CONCLUSIONS

When a child is born with a disability, parents are negatively impacted since they are concerned about what they should do and the future of their child. These parents need to be counseled regarding the disorder and the difficulties faced by their children (Leung & Li-Tsang, 2003). They should also be provided with adequate information on all the rehabilitation options and feasible vocational training available to them. This should be with a compassionate approach by professionals, thereby making them feel supported. The

outcome of these results can help decide/modify the government policies to better suit the needs of the hour.

The parents do not receive adequate support, which may affect the functioning of the family and the individual's physical and mental health. Support for these families can be provided by professionals in terms of adequate knowledge regarding the disability, and/or psychological counseling. Support groups can also be established at the local and regional levels to provide a platform for parents to share experiences, coping strategies, and emotional support. Comprehensive psychological counseling services should be made accessible to parents to address the mental health impacts. Parent training programs or workshops can be organized that focus on caregiving skills, stress management, and effective communication strategies. These programs would help empower the parents and educate them about the disability specific challenges and solutions. Further, raising public awareness about third-party disability can reduce stigma and foster a more inclusive environment for families with disabled members.

Governments and non-profit organisations can expand financial aid programs, such as subsidies for medical treatments, therapy sessions, and assistive devices. Providing tax benefits or incentives for families with disabled children could also help alleviate the financial burden. Information regarding vocational training and the available setups for vocational training to make the children independent should also be provided to the parents. This addresses a significant portion of the parents' concerns and anxiety regarding the child's future prospects. Rehabilitation using a family-centered approach may also help these parents. Additional information gathered under the open-ended subsection also highlights the need for modification of questionnaires.

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The authors do not have any conflicts of interest to declare.

***Data availability statement: ***

The data supporting this study are not publicly available due to confidentiality and privacy constraints.

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DISABILITY, CBR & INCLUSIVE DEVELOPMENT

Original Research Article

Knowledge, Attitude, and Utilization of Sexual and Reproductive Health Services among People with Disabilities

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ABSTRACT

Introduction and Purpose: Knowledge and attitude toward sexual and reproductive health play a crucial role in services utilization among people with disabilities. The purpose of this study was to assess the knowledge, attitude, and utilization of sexual and reproductive health services among people with disabilities in Kathmandu Valley.

Methods: The study was a quantitative, descriptive, and cross-sectional study. The total sample was 217, and a census was conducted to collect data from people with disabilities. The data were entered in EPI data 3.1 and exported to SPSS version 22 for further analysis. Descriptive and inferential statistics were used for data analysis.

Results: Of the 217 respondents, over half (54.8%) did not utilize sexual and reproductive health services (SRH), while 45.2% did. Among those SRH service users, more than two-thirds (66.3%) used family planning, and more than four-fifths (87.8%) sought those services from government health facilities.

Conclusion: This study revealed that slightly more than half did not utilize any sexual and reproductive health services, and the reason for not utilizing SRHS was the distance to facilities, as said by almost two-fifths of the respondents, while just over a third of the respondents mentioned no-disability-inclusive services.

Keywords: Utilization, Sexual and reproductive health, People with disability, physical disability, visual disability

INTRODUCTION

Approximately one billion people globally live with disabilities, and eighty percent of them reside in resource-limited settings (World Health Organization, 2015). Disability is influenced by both individual health conditions and environmental factors, encompassing a wide range of impairments, functional limitations, and participation restrictions (WHO, 2011). Despite international progress in health and human rights, persons with disabilities continue to face significant discrimination, marginalization, and social exclusion in many countries (Anderson & Kitchin, 2000; Stein, Stein, Weiss, & Lang, 2009).

Women with disabilities encounter even greater barriers, especially in relation to their sexual and reproductive health (SRH). Harmful stereotypes often depict them as asexual and unlikely to marry or bear children, leading to their exclusion from essential SRH services. These misconceptions contribute to their exclusion from essential healthcare services (Hridaya R Devkota, Kett, & Groce, 2019; Morrison et al., 2014). Compounding the issue, healthcare providers frequently lack the necessary training, equipment, and accessible information to provide inclusive SRH care. Social and economic factors further increase the vulnerability of women with disabilities. Economic dependence, social isolation, and assumptions that they are less likely to report abuse heighten their risk of experiencing violence, directly affecting their SRH rights and safety (Alexander & Taylor Gomez, 2017; Namatovu, Preet, & Goicolea, 2018; Subedi & Regmi, 2019). Despite prevailing myths, studies indicate that women with disabilities have similar levels of sexual desire and activity, as well as comparable needs for family planning, to their non-disabled peers (Alexander & Taylor Gomez, 2017; Emerson et al., 2014). However, their access to SRH services is often limited by lower socio-economic status, physical inaccessibility of health facilities, and the higher costs associated with care (Coppin et al., 2006; Hosseinpoor et al., 2013). People with disabilities have been reported to have poorer health outcomes due to multiple challenges, such as gender, a poor health care system, a lack of community support, and low economic levels (Kumi-Kyereme, Seidu, & Darteh, 2020; Ministry of Health and Population, 2019).

In Nepal, the prevalence of disability is 1.94%, with a higher rate among males (2.2%) compared to females (1.7%) (Central Bureau of Statistics Nepal, 2014). However, women with disabilities experience disproportionately poor health outcomes, largely due to gender-biased cultural norms that contribute to systemic discrimination and exclusion across multiple aspects of life (Hridaya Raj Devkota, Murray, Kett, & Groce, 2017). This group faces intersecting discrimination—both as women and as persons with disabilities—which leads to greater marginalization compared to either men with disabilities or non-disabled women (Anderson & Kitchin, 2000; Morrison et al., 2014).

Despite this, there remains a significant lack of information and attention regarding the sexual and reproductive health (SRH) needs of people with disabilities in Nepal. Government policies targeting women with disabilities often lack depth and practical implementation, and healthcare systems are ill-equipped to respond to their unique needs (Hridaya R. Devkota et al., 2019; Wilbur et al., 2021). Barriers to accessing SRH services include the physical inaccessibility of health facilities, lack of trained providers, economic hardship, and persistent societal stigma.

In resource-constrained settings like Nepal, SRH is integral to overall well-being and sustainable development. However, individuals with disabilities are often excluded from SRH discussions and services, largely due to the persistent misconception that they are not sexually active or do not require such care (Kallianes & Rubenfeld, 2014; Starrs et al., 2018). This neglect has perpetuated the invisibility of their SRH needs and rights in both health systems and broader policy frameworks.

Further studies are needed to understand the factors influencing SRH-related information and service utilization by Young People with Disabilities (YPWD)(Kassa, Luck, Bekele, & Riedel-Heller, 2016). Various factors impact the sexual and reproductive health of women with disabilities (Anderson & Kitchin, 2000; Groce, Kett, Lang, & Trani, 2011).

People with disabilities face poorer health outcomes due to challenges like gender disparities, inadequate healthcare systems, lack of community support, and economic difficulties (Emerson et al., 2009; Kumi-Kyereme et al., 2020). There is limited documentation analyzing how countries have formulated policies and solutions to meet the needs of people with disabilities (WHO, 2011). It is crucial to integrate people with disabilities into

sexual health promotion and service planning, requiring specialized policy and program interventions to address their unique challenges (Holdsworth et al., 2018).

There are just a few documents that compile and analyze how countries have built policies and solutions to meet the requirements of people with disabilities (Ministry of Health and Population Department of Health Services, 2019). It is critical to include people with disabilities in sexual health promotion and service planning, and specialized policy and program interventions are needed to address the negative sexual health outcomes that people with disabilities suffer disproportionately (Holdsworth et al., 2018).

Furthermore, it is critical to investigate the link between disability type and SRH service use, along with total disability status, to identify possible disparities in SRH service utilization among people with different disabilities (Mac-Seing, Zarowsky, Yuan, & Zinszer, 2022). Hence, this study will focus only on respondents with physical and visual disabilities, respectively.

These vulnerabilities underscore the pressing need for increased sexual and reproductive health education and care for people with disabilities. Universal access to SRH is recognized as a fundamental human right, aligning with sustainable development goals on good health, well-being, and gender equality. In this context, understanding the utilization of sexual and reproductive health services by people with disabilities is critical in Nepal.

The National Guideline for Disability Inclusive Health Services in 2019 prioritizes SRH services, with an even higher emphasis on SRH for women with disabilities in Nepal (Ahmed & Taneepanichskul, 2008). However, there is a notable gap in research, particularly in the inclusion of both genders with disabilities in studies targeting various areas to ensure fairness and equal opportunities. This study aims to include both genders with disabilities, making it a unique endeavor to assess the utilization of Sexual and Reproductive Health services among people with disabilities in the Kathmandu Valley.

Objective

The study aims to assess the knowledge, attitude, and utilization of sexual and reproductive health services among people with disabilities in the Kathmandu Valley.

METHODS

The dependent variable for this study was the utilization of SRH services.

Study setting

The study was conducted in five organizations working with visual and physical disabilities. The organizations in Kathmandu Valley are institutional as well as household-based. Out of the many organizations that support PWDs, only those focusing on people with physical and visual disabilities are considered as the study units, which comprise a total of nine organizations within the Kathmandu valley. Permission was granted from three organizations, where the estimated number of people associated with those organizations was provided. The sample organizations for the study are listed below:

Table 1: List of organizations providing study sample

S.N	Name of the organization	Eligible	Participated
1.	Blind Youth Association, Sukedhara	80	77
2.	Jawalakhel Wheelchair Sports Club	15	15
3.	B.I.An Institute, Jorpati	67	67
4.	Nepal Disabled Association (Khagendra Newlife Centre), Jorpati	40	40
5.	Sainik Purnasthapana Kendra, Bhandarkhal	20	18
	Total	**222**	**217**

Study Design

The study design was cross-sectional and carried out to assess the knowledge, attitude, and utilization of sexual and reproductive health services, as it allows for data collection at a single point in time, providing a snapshot of the current situation and enabling the identification of patterns and associations relevant to the study objectives. The selected method was quantitative, which examined the utilization of sexual and reproductive health services among people with visual and physical disabilities.

Study Tools

A semi-structured questionnaire was developed based on the study objectives and variables under the guidance of subject experts. A questionnaire was developed in English and then translated into Nepali without changing the meaning of the sentences used in the questionnaire, and then retranslated back to English. The study tool comprised three components: socio-demographic variables, service-related factors, and utilization-related factors. The tools used in utilization factors, where attitude-related statements were retrieved from "Sexual and Reproductive Health of Young People with Disability in Ethiopia: A Study on Knowledge, Attitude and Practice: A Cross-Sectional Study" by Tigist Alemu Kassa (Kassa et al., 2016), were in English and were translated into Nepali. Based on a modification of Bloom's cut-off points from Nahida's KAP-Study (2007), there were 10 variables to assess knowledge on SRH (Ahmed & Taneepanichskul, 2008). Pretesting was done among 22 people residing in the Bhaktapur district. Reliability and validity of the data collection tool were ensured by an extensive review of the literature and pretesting of the tools to check consistency under the guidance of subject experts.

Study Sample

A total of 217 eligible participants from five organizations were included in the study. Individuals with visual and physical disabilities were included as a unit. Overall, Kathmandu Valley has more than 25 disability-related NGOs working to make life easier for people with disabilities by making them self-reliant through awareness and skill development programs. Out of the many organizations that support PWDs, only those supporting people with physical and visual disabilities were the study units, which comprised a total of nine organizations within the Kathmandu Valley. Permission was granted by five organizations, for which an estimated number of people associated with each was provided.

Eligibility Criteria

Inclusion Criteria: Participants included in the study were individuals aged 18 to 45 with physical or visual disabilities residing in the Kathmandu Valley, whether in their own homes, rented accommodations, hostels, or rehabilitation centers for persons with disabilities (PWDs). Only those who were able to communicate fluently in the Nepali language were eligible. Disability status was identified using the organizations they were registered in and the disability card they were provided with.

The age range of 18 to 45 years was chosen to focus on individuals within the legally recognized age of adulthood and reproductive age group, ensuring ethical autonomy for informed consent and better comparability of sexual and reproductive health (SRH) needs. While menarche may begin around age 15, individuals under 18 are legally minors, and involving them would raise additional ethical considerations regarding assent and vulnerability. This range also allows for the inclusion of both men and women with disabilities, ensuring a more inclusive and gender-balanced understanding of SRH service knowledge, attitudes, and utilization.

Exclusion Criteria: People who were registered in the selected organizations and had disabilities other than physical and visual disability were not included in the study.

Data Collection Procedure

Data were collected through face-to-face interviews using a semi-structured questionnaire. Before data collection, formal permission was obtained from the relevant organizations by submitting an official letter issued by the affiliated academic institution. Once approval was granted, rapport-building activities were conducted to establish trust and ensure a comfortable environment for participants.

Interviews were conducted individually in a private setting to maintain participants' privacy and confidentiality. All interviews were carried out in the Nepali language, with consideration for the comfort, communication preferences, and accessibility needs of individuals with physical or visual disabilities.

Informed verbal and written consent was obtained from each participant before the interview. Participants were informed about the purpose of the study, their voluntary participation, the right to withdraw at any time, and measures taken to ensure confidentiality. No personal identifiers were recorded, and all responses were anonymized. The study adhered to ethical principles of respect, beneficence, and justice.

Data Management and Analysis

The collected data were checked and rechecked to reduce probable errors. After proper coding, data were entered into the Epi-Data software on the same day of data collection. The dataset in EpiData was then exported to SPSS version 22, and further analysis was carried out. Simple statistical measures, such as percentage, mean, standard deviation, and frequency, were used for descriptive analysis, while to measure the association between dependent and independent variables, the Chi-square test was done with a p-value less than 0.05 ($p\text{-value}<0.05$) for a significant level. Utilization of SRH was the dependent variable, defined as the use of any of the following SRH services: family planning, maternal and newborn care, sex education and care during menstruation, reproductive and pregnancy rights, safe abortion service, obstetric and gynecological services, breast and cervical cancer services, awareness on sexual and gender violence, and drug abuse. Independent variables of the study consisted of socio-demographic characteristics, service-related factors, and utilization-related factors.

Ethical Consideration

Ethical approval for the study was obtained from the Institutional Review Committee (IRC) of CIST College, Kathmandu, Nepal (Ref: IRC/183/078/079). In addition, formal permission was sought and granted from the relevant organizations involved in the study by submitting a written request letter from the college.

Following institutional approval, the researchers provided a brief self-introduction and explained the objectives of the study to potential participants. Informed written and verbal consent was obtained after clearly informing participants about the voluntary nature of their participation, their right to refuse or withdraw at any time without penalty, and the assurance that no foreseeable physical or emotional harm would result from their involvement.

Participants were assured of their right to ask questions at any point during the interview process. The study strictly adhered to the ethical principles of justice, respect for human dignity, and the protection of physical and emotional well-being. All data collected were kept confidential, and interviews were conducted in a private setting to maintain participant privacy.

RESULTS

Findings

This section presents findings of the study. A total of 217 people with disabilities were included in the study. Findings include socio-demographic characteristics, service-related factors, and utilization-related factors, knowledge of SRH and attitude-related

statements, along with their association with utilization of sexual and reproductive health services among people with disabilities.

Socio-demographic Characteristics

Out of 217 people with disabilities aged 18-45, the median age was 30. About 52.5% were between 18-30 years old, and 47.5% were between 31-45 years old. The majority were male (58.1%) and Hindu (71.4%). Ethnically, 46.1% were Brahmin/Chhetri and Janjati, while 3.7% were Dalit. Over half (53.5%) were unmarried, and 36.4% had secondary education, with only 5.5% able to write their names. More than half (54.8%) were self-employed, and 29.5% were unemployed.

Most participants (64.1%) had physical disabilities, 27.6% were completely blind, and 8.3% had partial blindness. Nearly all (95.9%) had a disability card, and 59.0% of those with cards had a 'b' grade.

Among these, 55.3% lived in rented accommodations, and 2.8% were in rehabilitation centers. Of those living in their own or rented houses, 78.7% were in nuclear families, and only 2.4% were in extended families. About 63.1% received good family support, 13.8% had poor support, and 30.9% faced family discrimination.

Table 2: Socio-demographic characteristics of respondents

Variables	Frequency	Percent
Co-morbidities (MR)		
Diabetes	8	14.8
Thyroid dysfunction	14	25.9
Hypertension	24	44.7
Heart diseases	4	7.4
Asthma	6	11.1
Kidney disease	3	5.6
Utilization of SRH Services		
SRH service users	98	45.2
SRH service non-users	119	54.8
Used SRH services (MR)		
Family planning	65	66.3
Maternal and newborn care	9	9.2
Sex education and care during menstruation	28	28.6
Reproductive and pregnancy rights	3	3.1
Safe abortion services	3	3.1
Awareness of sexual and gender-based violence and drug abuse	11	11.2
Reason for not utilizing SRH services		
No need to seek services	32	26.9
Distant facility	45	37.8
No disabled-inclusive services	42	35.3
Problem with the availability of SRH services		
Never a problem	32	32.7
A little problem	53	54.1
A big problem	13	13.3
Experience with the last received SRH services		
Completely respected	17	17.3
Neither respected nor disrespected	59	60.2
Completely disrespected	22	22.4
Ease of understanding information		
Easy	20	20.4

Neither easy nor difficult	52	53.1
Difficult	26	26.5
Ease being understood by healthcare providers		
Easy	26	26.5
Neither easy nor difficult	48	49.0
Difficult	24	24.5

Utilization-related factors

As shown in Table 2, 44.7% of people with disabilities experienced hypertension, and 25.9% had thyroid disorders, indicating the presence of significant co-morbidities within this population. More than half (54.8%) did not access sexual and reproductive health (SRH) services. Among SRH users, 66.3% utilized family planning, and 87.8% visited government facilities. Non-users often cited distance (37.8%) and lack of disability-inclusive options (35.3%) as barriers.

Among SRH users, 54.1% faced service availability issues, 22.4% felt disrespected, 26.5% found information hard to follow, and 24.5% struggled to communicate with providers. Awareness of SRH rights and methods was low; 37.8% knew about family planning, with condoms being most recognized (98.6%) and the calendar method least known (6.9%). While 92.6% had heard of STIs, including HIV/AIDS, 79.7% lacked knowledge about HIV testing and counseling.

Table 3: Utilization-Related Characteristics of SRH Services Among PWDs

Variables	Frequency	Percent
Co-morbidities (MR)		
Diabetes	8	14.8
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Experience with the last received SRH services		

Completely respected	17	17.3
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Ease of understanding information		
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Neither easy nor difficult	52	53.1
Difficult	26	26.5
Ease being understood by healthcare providers		
Easy	26	26.5
Neither easy nor difficult	48	49.0
Difficult	24	24.5

Level of Knowledge on SRH

In this study, 41.5% of people with disabilities had poor knowledge of sexual and reproductive health (SRH), while only 9.7% had good knowledge (Figure 1). Knowledge levels were classified as poor (<50%), moderate (50-79%), and good (80-100%), based on modified Bloom's cut-off points from Nahida's KAP-Study (2007).

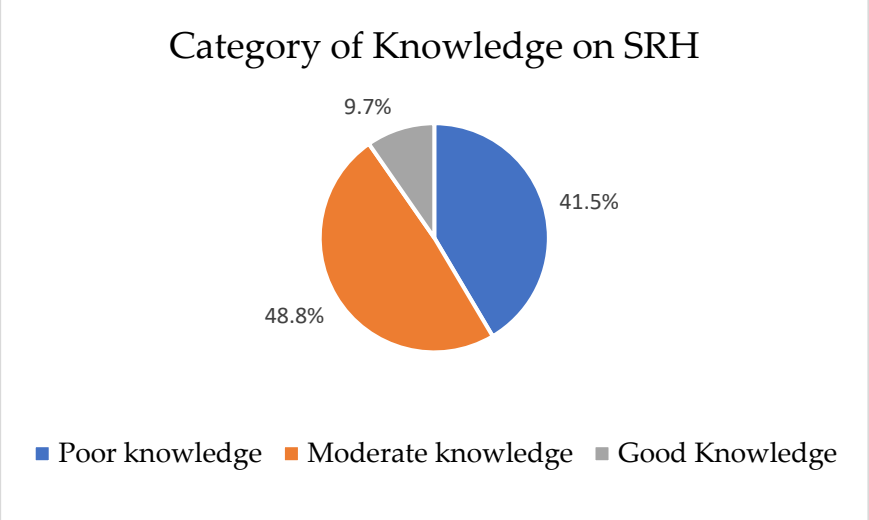

Figure 1: Level of SRH Knowledge Among Study Participants

Attitude-related statements

In this study, just over half (50.7%) of the respondents had a positive attitude toward sexual and reproductive health (SRH) issues, agreeing that HIV can be contracted the first time someone has sex. However, only 12.4% disagreed with the idea that you cannot tell if someone has HIV just by looking. Most participants (89.9%) believed that having multiple sex partners increases the risk of HIV, which reflects a favorable attitude.

More than half (51.6%) disagreed with the notion that using condoms indicates distrust in a partner, showing a positive attitude. Around 20% supported early premarital sex for boys and 18% for girls, which was less favorable. About a third did not agree that a wife can refuse unprotected sex if she wants to use a condom, and another third believed discussing condoms with young people encourages promiscuity, which were also less favorable views. Overall, most respondents had a positive attitude towards SRH issues.

Table 4: Assessment of Attitudes toward SRH Services among Persons with Disabilities

Attitude Statements	People With Disability, n (%)	
	Favourable attitude	Unfavourable attitude
A person can get HIV the first time he or she has sex	110(50.7)	107(49.3)
By looking carefully, one can know if someone has HIV	190(87.6)	27(12.4)
A person having multiple sex partners has a high risk of acquiring HIV	195(89.9)	22(10.1)
Using a condom is a sign of not trusting your partner	112(51.6)	105(48.4)
Early age premarital sex for boys is supported	174(80.2)	43(19.8)
Early age premarital sex for girls is supported	178(82.0)	39(18.0)
A wife has a right to refuse unprotected sex with her husband if she wants to use a condom, but her husband does not	145(66.8)	72(33.2)
Discussing condoms or contraceptives with young people promotes promiscuity	144(66.4)	73(33.6)

Association between socio-demographic characteristics and utilization of SRH services among PWDs

Out of 12 variables, only one variable i.e., occupation, was associated with utilization of SRH services by p-value (0.024), having a moderate relationship with Cramer's V of 0.227.

Table 5: Utilization of SRH Services by PWDs in Relation to Socio-demographic Factors

Occupation	SRH service user, n (%)	SRH services non-user, n (%)	p-value	Cramer's V
Unemployed	28(43.07%)	37(56.92%)	0.024*	0.227
Business	2(11.1%)	16(88.9%)		
Self-employed	61(51.3%)	58(48.7%)		
Service	7(46.66%)	8(53.33%)		

$p<0.05$, *Likelihood ratio,

Association of service-related factors and utilization of SRH services among PWDs

Out of 6 variables, two variables were significant with the utilization of SRH services by PWDs: annual household income with p-value=0.037, having a weaker relationship with Cramer's V of 0.172, and distance between SRH facility and residence with p-value=0.047, having a weaker relationship with Cramer's V of 0.168.

Table 6: Association between Service-related Factor and Utilization of SRH Services among PWDs

Variables	SRH service users, n (%)	SRH service non-users, n (%)	p-value	Cramer's V
Annual Household Income				
Less than 1 lakh	13(29.5%)	31(70.5%)	0.037	0.172
1-10 lakhs	85(50.86%)	88(49.13%)		
Distance between the SRH facility and the residence				
1-8 KM	42(56.8%)	32(43.2%)		
9-16 KM	42(39.3%)	65(60.7%)	0.047	0.168
17-25KM	14(38.9%)	22(61.1%)		

DISCUSSION

This study provides valuable insights into the knowledge, attitudes, and utilization of sexual and reproductive health (SRH) services among people with disabilities (PWDs) in the Kathmandu Valley. The findings reveal significant gaps in SRH service utilization, knowledge, and attitudes among this population, underscoring the need for targeted interventions to improve SRH outcomes for PWDs.

Over half of the respondents (54.8%) did not utilize SRH services. This underutilization can be linked to the lack of disability-inclusive services and the distance to facilities. Similar structural barriers were identified in another study, where women with disabilities cited distant facilities and inaccessible infrastructure as major obstacles to using SRH services (Shiwakoti et al., 2021). A recent study in Kathmandu reported that only 47.6% of women accessed family planning services, supporting the findings of the present study (Singh et al., 2024).

Although disability identity cards are intended to improve health and other social services, many PWDs still face barriers. In Ilam district, even cardholders reported difficulties, including poor physical access, negative provider attitudes, and lack of awareness about available SRH services (Shiwakoti et al., 2021). This suggests that formal recognition alone is insufficient to ensure access.

International evidence echoes these findings. In Uganda, SRH service utilization was not significantly associated with disability types, indicating that systemic and social factors may play a greater role than the nature of disability (Mac-Seing et al., 2022). In Pakistan, women with disabilities were less likely to utilize ANC, delivery, and PNC services from skilled health service workers (Mahmood, Hameed, & Siddiqi, 2022). These studies highlight the need for policies that address physical, institutional, and attitudinal barriers, rather than relying solely on disability certification.

Occupational status was also found to be associated with SRH service utilization. Self-employed respondents were more likely to access services compared to those who were unemployed or engaged in other forms of employment. This may be due to greater financial independence and flexible schedules. A previous study similarly found that employed women with disabilities were significantly more likely to use SRH services (Shiwakoti et al., 2021). Although the study did not isolate self-employment, it enforced the role of economic empowerment in improving healthcare access.

The study also uncovered a concerning lack of SRH knowledge among PWDs. Only 9.7% of respondents have good knowledge, while the majority had poor (41.5%) or moderate (48.8%) understanding. Awareness of specific topics such as family planning, reproductive rights, and prevention was limited, and misconceptions were common. In contrast, a study conducted among women with disabilities found a significant association between SRH knowledge and service utilization (Shiwakoti et al., 2021). This difference may be due to the gender and educational profile of respondents. The heavy reliance on informal sources like TV/Radio and friends further indicates a need for reliable and accessible SRH education tailored to PWDs.

Attitudes toward SRH services were mixed. While many participants expressed positive views, such as acknowledging the importance of condom use and the risks of multiple sex partners, negative attitudes were prevalent. A substantial number believed that discussing contraception with young people encourages promiscuity. Support for early premarital sex among boys and girls also reflected entrenched cultural norms that may drive risky sexual behavior. While this study found generally favourable attitudes, a similar KAP study in Ethiopia reported predominantly unfavourable attitudes, possibly due to differences in SRH knowledge levels (Kassa et al., 2016).

The study identified multiple barriers to SRH service utilization, including the distance to facilities and the lack of disability-inclusive services. Participants also reported

issues related to service availability, providers' respect, and communication challenges. Negative experiences, such as feeling disrespected or misunderstood, can further discourage the service use. Training health care providers to deliver respectful, inclusive care is therefore critical. A systematic review in sub-Saharan Africa similarly found that physical, attitudinal, and informational barriers significantly hinder access for people with disabilities. The review emphasized the lack of providers and the confounding effect of stigma, both of which contribute to inadequate service delivery (Ganle, Baatiema, Quansah, & Danso-Appiah, 2020). Moreover, the stigma surrounding disability further exacerbates these challenges, making it difficult for individuals to seek out and receive the care they need.

This is an organization-based cross-sectional study. Therefore, individuals who are not affiliated with any organization were excluded, and the findings of this study cannot be generalized to the community setting. Additionally, recall bias may have occurred due to the long time interval, especially among individuals whose period of frequent sexual and reproductive health service utilization has already passed due to age.

CONCLUSION

In conclusion, this study sheds light on the critical challenges faced by PWDs in accessing SRH services in Kathmandu Valley. The gaps in knowledge, negative attitudes, and barriers to service utilization identified in this research underscore the urgent need for comprehensive interventions aimed at improving SRH outcomes for this vulnerable population. Addressing these issues through policy reforms, education, and improved service delivery will be essential in ensuring that PWDs can fully realize their sexual and reproductive health rights.

RECOMMENDATIONS

The findings of this study have several implications for policy and practice. First, there is a need for targeted educational campaigns to improve SRH knowledge among PWDs, with a focus on addressing misconceptions and providing accurate information through accessible formats. Second, healthcare facilities must be made more accessible to PWDs, both in terms of physical accessibility and the availability of disability-inclusive services. Third, healthcare providers should receive training to enhance their ability to communicate effectively with PWDs and deliver respectful and responsive care to their needs. Lastly, policies should be developed to address the socio-economic barriers that prevent PWDs from accessing SRH services, including measures to support their financial independence and reduce the distance to healthcare facilities.

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Data availability statement: The data supporting the findings of the study are available from the corresponding author on reasonable request.

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Review Article

Special Education in Ghana: Current Challenges and Opportunities

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ABSTRACT

This study explores the challenges and opportunities in implementing inclusive education for persons with disabilities (PWDs) in Ghana. A systematic review approach was employed, analyzing a range of peer-reviewed articles, policy documents, and reports published between 2019 and 2025. Crossref, EBSCO, PubMed, Cochrane, and ProQuest were among the databases searched to obtain data on challenges and opportunities. Thirteen mixed studies (qualitative and quantitative), 10 qualitative studies, and 2 policy documents were eventually found to meet the inclusion criteria. The study identifies significant barriers such as inadequate infrastructure, insufficient teacher training, and weak enforcement of the Persons with Disabilities Act (Act 715), which hinder access to quality education. Socio-cultural stigma and negative societal attitudes further marginalize PWDs, especially in rural areas. However, the study also highlights opportunities like policy support for inclusive education, the integration of assistive technologies, and community-based initiatives. The study recommends increased funding, stronger policy enforcement, expanded teacher training, and greater community-driven advocacy to improve educational and employment outcomes for PWDs.

Keywords: disabilities in Ghana, inclusive education, challenges, opportunities, special education.

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INTRODUCTION

Ghana's progress toward inclusive education for children with disabilities has a long and significant history, beginning in 1936 with the establishment of special education programs under the Department of Social Welfare. Initially, these efforts were limited in scope and predominantly focused on charity-based approaches rather than rights-based frameworks, reflecting the prevailing global attitudes toward disability during that era (Naami et al., 2023). Over the years, Ghana has endeavored to shift toward more inclusive policies, culminating in the enactment of the Persons with Disabilities Act (Act 715) in 2006. This legislation represents a critical milestone in affirming the rights of individuals with disabilities (Government of Ghana, 2006). Nevertheless, despite this legislative advancement, significant challenges persist in the effective implementation and enforcement of the associated policies.

The Persons with Disabilities Act was enacted to create a legal framework for individuals with disabilities across social, educational, and economic sectors. Key provisions of the Act mandate that public buildings and institutions be made accessible to persons with disabilities, ensure the implementation of inclusive education, and provide safeguards against discrimination in employment and other areas (Government of Ghana, 2006). Nevertheless, the effectiveness of the Act has been undermined by the absence of the necessary legislative instruments for its implementation. For example, while the legislation specifies a ten-year transition period for public and private buildings to improve accessibility, actual compliance remains low due to insufficient enforcement mechanisms (Naami et al., 2023).

Furthermore, the insufficient funding allocated to disability programs significantly exacerbates the challenges faced in this area. The Special Education Division of Ghana's Ministry of Education, responsible for overseeing the implementation of inclusive education policies, has experienced chronic underfunding. Its proportion of the educational budget declined from 0.7% in 2010 to a mere 0.4% in 2012 (Naami et al., 2023). This persistent lack of financial resources restricts the division's capacity to provide essential infrastructure, comprehensive teacher training, and adequate learning materials to support children with disabilities. As a result, the educational system, despite its legislative objectives, continues to struggle to meet even the most fundamental standards for accessibility and inclusivity.

A significant gap in policy exists in Ghana concerning the alignment of its disability legislation with international frameworks. The United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), ratified by Ghana in 2012, advocates for comprehensive, rights-based approaches to disability inclusion. Nevertheless, Ghana's Disability Act (Act 715) has not been harmonized with the UNCRPD, resulting in numerous inconsistencies between national disability policy and global best practices. For instance, while the UNCRPD underscores the importance of inclusive education as a fundamental right, Ghana's current practices remain fragmented, with many children with disabilities assigned to special schools rather than integrated into mainstream classrooms (Senadza et al., 2019).

Moreover, the absence of robust monitoring and evaluation frameworks further exacerbates these challenges. Several initiatives outlined in the Persons with Disabilities Act have not been implemented due to a lack of effective oversight and accountability. For example, the mandate for inclusive infrastructure in educational institutions and public facilities is infrequently enforced, rendering many buildings inaccessible to individuals with disabilities. Additionally, the lack of a centralized database to monitor the progress of disability programs and the allocation of disability-related resources results in notable inefficiencies and inequities in service delivery.

The relationship between education and employment opportunities for persons with disabilities (PWDs) is an important factor in enhancing social inclusion and reducing poverty in Ghana. Education is not only a fundamental human right but also a powerful tool for improving employment prospects and promoting financial independence. However, despite significant strides in promoting educational inclusion for persons with disabilities in Ghana, challenges continue to limit access to quality education and, consequently, employment opportunities.

The level of educational attainment is strongly correlated with employment opportunities for PWDs in Ghana. Research indicates that individuals with higher levels of education have better chances of securing stable and well-paid jobs (Morgan, 2023). This holds for persons with disabilities as well, although they often face additional barriers that hinder their ability to access and complete formal education. For many PWDs, the

completion of secondary or tertiary education can significantly enhance their employability by equipping them with the skills and qualifications necessary to enter the workforce.

However, despite the importance of education in improving employment prospects, access to education for PWDs in Ghana is still limited. Only a small proportion of children with disabilities complete secondary school, and even fewer pursue higher education (Naami et al., 2023). Many children with disabilities drop out of school early due to a combination of factors, including physical and social barriers, lack of trained teachers, and societal stigma (Opoku et al., 2021). As a result, many PWDs enter adulthood without the necessary educational credentials, making it harder for them to compete in the job market.

This study addresses the significant mismatch between the legal framework for inclusive education in Ghana, the limited resources available for its effective implementation, and the resulting barriers that prevent persons with disabilities (PWDs) from accessing quality education. Despite Ghana's legislative efforts, particularly through the Persons with Disabilities Act (Act 715), which emphasizes inclusive education, the practical realities present serious challenges. These challenges contribute to a fragmented education system that fails to fully support children with disabilities. Additionally, the implementation of inclusive education policies remains weak, largely due to the absence of robust monitoring and enforcement mechanisms. This gap highlights the difference between policy intentions and their practical application, which continues to hinder the educational attainment of PWDs.

Education is closely linked to employment opportunities, social inclusion, and financial independence. By improving access to quality education, PWDs would be better positioned to pursue higher levels of education, which is essential for improving employment prospects. Addressing the challenges would align Ghana's policies more closely with international standards such as the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) and would ensure that Ghana's education system becomes more inclusive and equitable for all children, including those with disabilities.

The aim of the study was to explore these systemic gaps or challenges in the implementation of inclusive education policies and their impact on PWDs in Ghana. This study sought to identify the key barriers preventing effective policy implementation and provide recommendations for addressing these barriers to improve access to education and employment for PWDs.

METHODS

Systematic Review

One study technique for gathering, assessing, and synthesising the body of current literature in an organised and transparent way is a systematic review (Tran et al., 2021). This systematic review's main objective was to compile the results of previous studies to comprehend the potential and difficulties facing Ghana's special education system. This methodology highlights the potential for development while identifying important themes and barriers that impact inclusive education through an examination of peer-reviewed articles, policy documents, reports, and other academic sources (Naami et al., 2023; Opoku et al., 2021). A literature search, the application of inclusion and exclusion criteria, quality evaluation, and thematic analysis were the steps that this review went through. By taking these actions, a thorough and rigorous understanding of Ghana's special education system and its effects on disabled students was guaranteed.

Data Collection Process

This systematic review examined the current challenges and opportunities of special education in Ghana using the techniques described by Arkey and O'Malley (2005). Finding pertinent research, choosing it, charting the data, and synthesising the results were all

steps in the review process. Crossref, EBSCO, PubMed, Cochrane, and ProQuest were among the databases used in the search to obtain data on challenges and opportunities. MeSH descriptors include "special education," "challenges," "opportunities," and "inclusive education". These search phrases were derived from these terms. Only works published between 2019 and 2025 were included in the review of the literature.

The search encompassed position statements, dissertations, government reports on incident figures, textbooks, peer-reviewed journal papers, systematic reviews, and meta-analyses. Additionally, Boolean operators such as "or" and "and" were used. When required, ancillary or related research was incorporated. After removing 26 duplicates from the 111 articles that the first search yielded, 85 items moved forward to the first screening. Sixty-two full-text articles remained for examination after 23 of them were eliminated as non-research or opinion. Finally, 25 studies, which included 13 mixed studies (qualitative and quantitative), 10 qualitative studies, and 2 policy documents that looked at the challenges and opportunities of special education and focused on Ghana, satisfied the requirements.

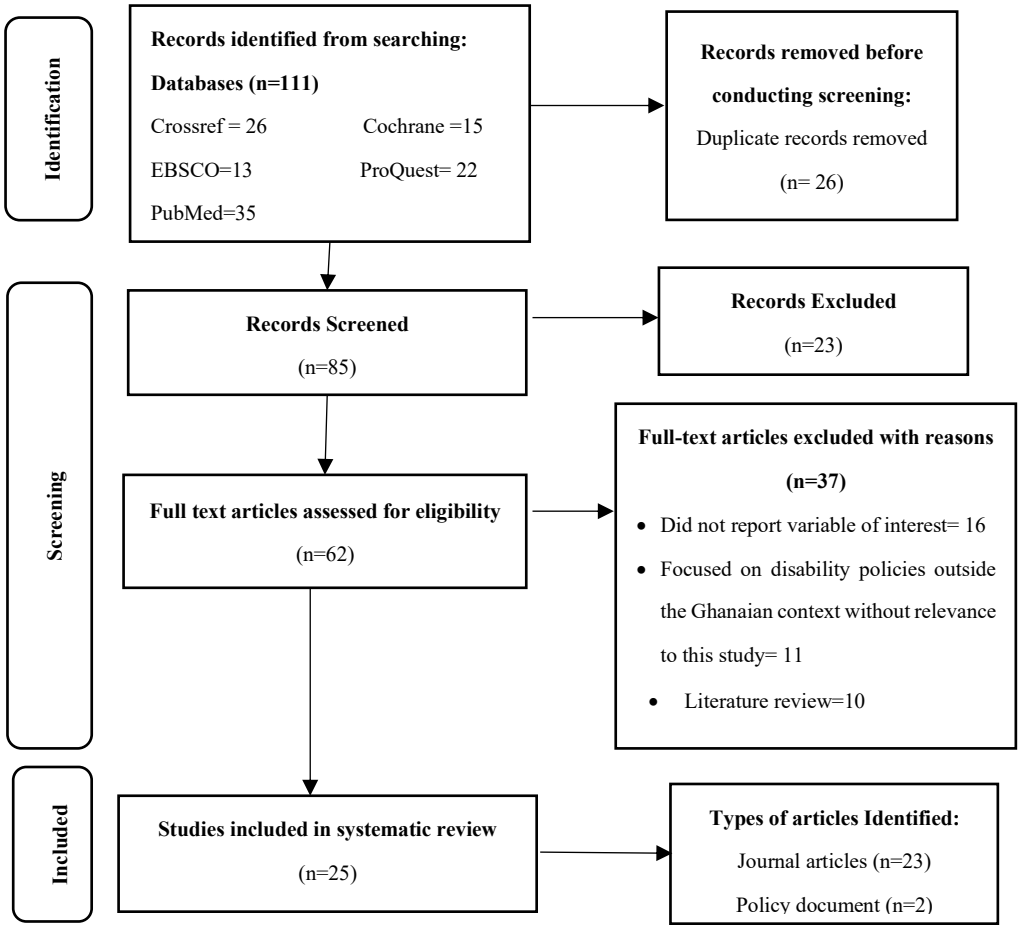

Figure 1: PRISMA flow diagram of search results and the screening process

RESULTS

Challenges

Significant Infrastructural and Systemic Barriers

One of the most critical challenges confronting special education in Ghana is the significant infrastructural and systemic barriers that hinder children with disabilities from obtaining quality education. Educational institutions throughout the country, particularly in rural and under-resourced areas, frequently lack the necessary resources to support students with disabilities. Essential infrastructure, including ramps, accessible restrooms,

and braille signage, is often conspicuously absent, rendering many educational facilities physically inaccessible to students with mobility, sensory, or other disabilities (Odame et al., 2020). Consequently, a substantial number of children are compelled to abandon their education or forgo it entirely, thus perpetuating cycles of poverty and social exclusion.

The lack of inclusive infrastructure in schools is a major obstacle to achieving universal access to education for persons with disabilities. Many classrooms are designed without considering the needs of students with disabilities, resulting in narrow doorways, steep stairs, and uneven floors that hinder mobility (Tudzi et al., 2017). For visually impaired students, the absence of tactile materials or braille resources creates further challenges, limiting their ability to fully participate in classroom activities (Opoku et al., 2021). Similarly, students with hearing impairments often struggle due to the lack of sign language interpreters or assistive listening devices, making it difficult to engage in lessons.

Transportation to educational institutions presents a substantial challenge for students with disabilities in Ghana. The public transportation systems are predominantly inaccessible, characterised by a lack of ramps and designated spaces for individuals who use wheelchairs (Odame et al., 2020). A study conducted at the University of Cape Coast revealed that the floor heights of campus shuttles exceed established accessibility standards, thereby making it nearly impossible for wheelchair users to board without assistance (Odame et al., 2020). These transportation barriers significantly contribute to low school attendance rates among children with disabilities, particularly in rural regions.

A significant systemic challenge within Ghana's educational framework is the insufficient number of adequately trained teachers capable of effectively supporting students with disabilities. A substantial proportion of educators in public schools lack training in inclusive teaching methodologies and disability-specific pedagogies, rendering them ill-prepared to address the varied needs of their students (Opoku et al., 2021). For instance, a teacher who has not received training in Braille may find it challenging to assist a visually impaired student, while those without knowledge of sign language cannot facilitate effective communication with hearing-impaired students. This deficiency in teacher training presents a considerable obstacle to learning for students with disabilities and exacerbates existing educational inequities.

Special education in Ghana faces chronic shortages of funding, teaching and learning materials, assistive equipment, and accessible infrastructure. This limits the effectiveness of both special and inclusive schools (Asamoah et al., 2023; Kumedzro, 2019; Nyaaba et al., 2021). Physical school environments are often not disability-friendly, with inaccessible buildings and a lack of assistive devices, making participation difficult for students with disabilities (Hamenoo & Dayan, 2021).

Many educational institutions encounter challenges due to insufficient teacher training and a lack of specialised equipment and instructional materials that are critical for fostering inclusive education. Important resources, such as adaptive desks, assistive technologies, and sensory aids, are frequently unavailable or prohibitively expensive for schools to procure. This scarcity of resources restricts the ability of schools to cultivate an environment conducive to the educational success of students with disabilities (Tudzi et al., 2017). As a result, numerous children with disabilities are relegated to special schools, which are often underfunded and located in areas that are difficult to access, rather than being integrated into mainstream classrooms.

Policy Implementation and Monitoring Gaps

The Persons with Disabilities Act (Act 715) of Ghana mandates the accessibility of educational facilities; however, compliance remains insufficient due to inadequate enforcement and monitoring mechanisms (Government of Ghana, 2006). Many educational institutions and local governments are either unaware of the specific requirements established by the Act or lack the necessary financial resources for implementation. Although

the legislation stipulates a ten-year transition period for public buildings to be made accessible, numerous schools have yet to undertake significant modifications (Naami et al., 2023). The lack of penalties or accountability measures for non-compliance further compromises the effectiveness of the Act.

Furthermore, systemic underfunding of special education programs exacerbates these issues. The Special Education Division of the Ministry of Education in Ghana, responsible for executing inclusive education policies, has consistently received minimal financial support, hindering its ability to address prevalent infrastructural deficiencies (Naami et al., 2023). In the absence of substantial funding increases, initiatives aimed at enhancing accessibility and inclusivity within educational institutions are unlikely to progress effectively.

The infrastructural and systemic challenges present in Ghana significantly impact the educational outcomes of students with disabilities. A considerable number of these children discontinue their education due to a combination of physical barriers, inadequate support services, and pervasive societal stigma (Opoku et al., 2021). Among those who continue their education, a marked disparity in academic achievement exists in comparison to their non-disabled counterparts, as they encounter substantial obstacles resulting from their environments. This educational inequity not only limits their prospects for higher education but also hampers their employability, thereby perpetuating their marginalization within society.

Stigma and Socio-Cultural Barriers

Persistent negative societal attitudes, cultural stereotypes, and stigma toward disability hinder the inclusion and support of children with special needs. These attitudes affect both the school environment and broader community, leading to discrimination and social exclusion (Ackah-Jnr & Appiah, 2025; Nyaaba et al., 2021).

Stigma and socio-cultural beliefs represent significant barriers to the inclusion of persons with disabilities (PWDs) in Ghana, particularly within the educational sector. Despite legislative advancements, such as the Persons with Disabilities Act (2006), and a growing awareness of disability rights, negative societal attitudes and entrenched cultural norms continue to obstruct the full integration of children with disabilities into mainstream educational environments and society. These socio-cultural challenges are multifaceted, encompassing not individual attitudes but institutional practices, public perceptions, and broader cultural and spiritual beliefs regarding disability.

In Ghana, as in numerous other regions of sub-Saharan Africa, disabilities are frequently interpreted through the framework of traditional beliefs that link them to spiritual or moral shortcomings. Disabilities may be perceived as divine punishment for transgressions or as resulting from supernatural phenomena, including ancestral curses, malevolent spirits, or witchcraft (Mfoafo-M'Carthy et al., 2020). Such cultural beliefs profoundly impact the perception and treatment of individuals with disabilities (Mfoafo-M'Carthy et al., 2020). For instance, children with disabilities may be regarded as "cursed" or "undesirable," leading to a prevalent cultural stigma that impedes their inclusion in community activities, particularly in educational settings.

The manifestation of this stigma takes various forms. Families of children with disabilities, especially in rural communities, may opt to conceal their children or remove them from public view to mitigate social embarrassment or ridicule. Consequently, many children with disabilities are deprived of essential opportunities for socialisation and education. This cultural outlook contributes to elevated dropout rates among students with disabilities in Ghana, as these children may be barred from attending school or face exclusion after enrollment (Naami et al., 2023).

For families of children with disabilities, the societal stigma can be devastating. Parents may experience feelings of shame, guilt, or even fear of social ostracism. This often

results in parents keeping their children at home to avoid the discrimination they might face at school or in public spaces. Research shows that parents of children with disabilities are often reluctant to seek formal educational opportunities for their children, fearing that their children will not only face academic challenges but also emotional and social isolation (Opoku et al., 2017). This social exclusion is particularly acute in rural communities, where traditional beliefs hold more sway, and access to information about disability and inclusive practices is limited. In urban areas, while there may be more awareness of disability rights, socio-cultural prejudices persist, and families still face significant challenges in finding schools and communities that will accept their children without discrimination (Naami et al., 2012).

Barriers to Education and Employment

A lack of inclusive educational facilities and support services, such as sign language interpreters, braille materials, and adaptive learning technologies, constitutes a major barrier to education for students with disabilities (Tudzi et al., 2017). Many schools lack the infrastructure to accommodate students with disabilities, and even when students with disabilities do manage to enroll, they often face challenges in accessing quality education due to these limitations.

Moreover, there is a lack of awareness among teachers about how to address the unique needs of students with disabilities (Opoku et al., 2021). The absence of disability-focused training in teacher education programs means that many educators are ill-equipped to provide the necessary support for disabled students. This often results in disabled students receiving less attention, lower expectations, and fewer educational opportunities than their non-disabled peers (Opoku et al., 2021). This lack of educational support leads to a lower completion rate for disabled students and, ultimately, a reduced ability to transition successfully into the workforce.

Opportunities

Policy and Institutional Support

The Ministry of Education's Education Strategic Plan (ESP) promotes inclusive education as the future direction, encouraging the integration of children with special needs into mainstream schools while maintaining special schools for those requiring more intensive support (Issaka et al., 2022). National policies now require pre-service teacher training in inclusive education, aiming to equip all teachers with the skills to support diverse learners (Issaka et al., 2022). Special schools continue to play a vital role, offering dedicated teachers, varied learning activities, and preparatory support for children with intellectual disabilities (Hervie, 2023).

The government's dedication to inclusive education is among the changes in Ghana's special education scene. The Inclusive Education Policy Framework, which promotes mainstream schools to accept students with special needs, is one of the inclusive policies that the Ministry of Education has continued to prioritise (Novignon, 2025). This has resulted in more children with disabilities being enrolled, infrastructure improvements, and teacher training initiatives that enhance inclusive classroom pedagogy.

A growing opportunity lies in the integration of assistive technology to support students with special needs. With support from international organisations and the private sector, schools in urban and peri-urban areas have begun using low-cost digital tools such as screen readers, speech-to-text applications, and audio-based learning platforms (Buabeng & Amo-Darko, 2024). These interventions not only enhance learning outcomes but also promote independence and social inclusion for students with disabilities.

Moreover, universities and teacher training colleges are gradually incorporating inclusive education modules into their curricula. According to Elliason (2025), there has been a shift towards practice-based PhD models in education that emphasize research and

intervention in real-world inclusive learning environments. This evolution offers future educators and researchers a platform to engage deeply with the challenges and possibilities within Ghana's special education sector.

Community-based programs are also creating opportunities for localised impact. NGOs and grassroots organisations such as Lady Volta Green Tech Academy are integrating vocational training with inclusive education for women and youth with disabilities (Yeboah, 2025). These initiatives blend empowerment, education, and economic development, offering an alternative model for special education in rural Ghana.

Additionally, donor-funded projects have supported infrastructure and policy development, especially in underserved areas. For instance, USAID and UNICEF have funded teacher capacity-building workshops, inclusive school designs, and the development of Individualised Education Plans (IEPs), especially for learners with autism, hearing impairment, and intellectual disabilities (Amo-Antwi et al., 2025). These collaborations significantly boost local education departments' ability to implement inclusive practices.

DISCUSSION

In the educational context, stigma plays a critical role in the segregation of children with disabilities. Teachers who are not properly trained to handle the unique needs of students with disabilities may harbour biases that further marginalise these students. The lack of disability-awareness training in teacher education programs means that many educators hold inaccurate or harmful beliefs about the abilities of students with disabilities (Opoku et al., 2021). These negative attitudes affect how teachers interact with students, often leading to lower expectations and a lack of encouragement for disabled students.

Furthermore, children with disabilities may face bullying or verbal abuse from their peers, further entrenching their social isolation and academic disadvantage. In a study on inclusive education in Ghana, Opoku et al. (2021) found that children with disabilities are often labeled as "inferior" or "difficult", which reduces their opportunities for academic engagement and success. This stigma, both internal and external, prevents children from reaching their full potential and diminishes their self-esteem, which can have long-term psychological and social consequences.

Additionally, barriers within the education system, societal attitudes, and discrimination limit employment opportunities for PWDs. Negative stereotypes about disability often paint persons with disabilities as incapable or less productive than their non-disabled counterparts. These prejudices are reinforced in the workplace, where employers may be hesitant to hire individuals with disabilities, fearing the potential costs or difficulties associated with providing accommodations or adaptations (Naami, 2015). In many cases, workplace discrimination leads to exclusion from the labour market altogether.

The Way Forward

Addressing the infrastructural and systemic challenges encountered by individuals with disabilities necessitates a comprehensive strategy that prioritises investment in disability-friendly facilities, educator training, and resource allocation. Schools must be equipped with the necessary features, including ramps, accessible restrooms, and adaptive classrooms. Furthermore, public transportation systems must be redesigned to adequately accommodate the needs of persons with disabilities (Odame et al., 2020).

Educator training programs ought to incorporate modules focused on inclusive teaching methodologies, alongside the effective application of assistive technologies and adaptive learning materials (Opoku et al., 2021). Additionally, the implementation of robust monitoring and enforcement mechanisms is critical to ensure adherence to the accessibility standards delineated in the Persons with Disabilities Act.

It is also imperative to increase funding for special education programs. By allocating a greater proportion of the education budget to inclusive initiatives, the government can

address existing resource disparities and ensure that all children, regardless of their abilities, have access to high-quality education. Moreover, fostering community involvement and advocacy can significantly enhance these efforts, elevate awareness, and promote a culture of inclusivity within educational institutions and society as a whole.

The Role of Religion in Disability Perceptions

Religious institutions also play a significant role in shaping societal views of disability in Ghana. While some religious groups promote inclusiveness, others perpetuate harmful stereotypes about disability. In some Christian and traditional religious contexts, disability is sometimes considered a manifestation of demonic possession or a test of faith (Mfoafo-M'Carthy et al., 2020). Consequently, individuals with disabilities are sometimes denied participation in religious activities or subjected to healing practices that may not address their actual needs. These practices not only reflect a lack of understanding about disability but also reinforce the belief that disabled persons are somehow different or less human than others.

In contrast, some religious organisations have made important strides in advocating for the rights of PWDs. For example, some churches have become more inclusive by providing physical accommodation like wheelchair access and offering support for families of children with disabilities. However, such progressive initiatives are still limited, and many communities still adhere to exclusionary religious practices that marginalise persons with disabilities.

The Role of Media in Shaping Perceptions

The media also plays a significant role in either perpetuating or challenging stigma surrounding disability. In Ghana, disability issues are often underrepresented in mainstream media, and when they are covered, they are frequently depicted in ways that reinforce negative stereotypes (Amoako et al., 2020). For instance, persons with disabilities are often portrayed as pitiable or as objects of charity rather than as active, capable members of society. This portrayal deepens societal prejudice and limits the visibility of positive role models for children with disabilities. When disability issues are not represented accurately or sufficiently, the public's understanding of disability remains skewed, and stigma persists.

Strategies for Reducing Stigma

To combat stigma, there is a growing need for educational and awareness campaigns aimed at changing societal perceptions of disability. These campaigns can be particularly effective if they involve people with disabilities themselves in advocacy and awareness-raising activities. Programs like Ghana Somubi Dwumadie, which focus on policy advocacy and addressing stigma through community engagement, have demonstrated that empowering persons with disabilities to speak out and participate in decision-making can significantly shift public attitudes (Ghana Somubi Dwumadie, 2024).

Furthermore, integrating disability education into the mainstream curriculum can help foster an inclusive mindset from a young age. By educating children about disability, its causes, and the capabilities of persons with disabilities, schools can create more accepting environments. Teacher training programs must also incorporate disability awareness to ensure that educators are equipped to challenge their own biases and teach inclusively.

The Role of Vocational Training and Skill Development

Vocational education and training (VET) play a crucial role in improving the employability of PWDs in Ghana. Given that many PWDs may not complete formal education, vocational training provides an alternative route for acquiring marketable skills. However, the availability and accessibility of vocational training programs for persons with disabilities in Ghana are limited. Many vocational centers lack the necessary infrastructure and resources to accommodate disabled students, and the curriculum is often

not tailored to the needs of these students (Naami et al., 2023). As a result, PWDs face difficulties in accessing the skills needed for employment, even though vocational training could be a key pathway to economic independence.

Furthermore, employers in Ghana often lack awareness of the potential contributions that PWDs can make to the workforce. There is a need for more inclusive and disability-friendly employment practices, such as reasonable accommodation in the workplace, flexible work hours, and assistive technologies, to ensure that PWDs thrive in a variety of work environments. Without these accommodations, PWDs are often excluded from the labor force, even when they possess the necessary skills and qualifications (Equal Opportunity Study, 2023).

The Role of Legislation and Social Protection

The Ghanaian government has made important strides in creating a more inclusive labour market for PWDs through legislation such as the Persons with Disabilities Act (2006), which prohibits discrimination based on disability and mandates that 2% of employees in public institutions be persons with disabilities. However, enforcement of these policies has been weak, and there are few incentives for private employers to comply with disability inclusion policies (Naami et al., 2023). This gap in enforcement undermines the potential impact of the legislation and contributes to the continued underemployment of PWDs.

Social protection programs such as the Livelihood Empowerment Against Poverty (LEAP) initiative, which targets vulnerable groups, including PWDs, offer some support, but they are insufficient in addressing the broader systemic issues of employment access. The National Health Insurance Scheme (NHIS), which provides health coverage to all citizens, also has limited coverage for services that address the specific needs of PWDs, such as rehabilitation and assistive devices (Badu et al., 2016). Expanding social protection programs and ensuring better access to health services would help reduce the economic vulnerabilities faced by PWDs and support their ability to enter and remain in the workforce.

Improving Educational and Employment Outcomes

To improve the correlation between education and employment for persons with disabilities in Ghana, several strategies are necessary. First, there must be a greater focus on inclusive education policies, ensuring that schools are adequately equipped to accommodate the needs of students with disabilities. This includes investing in accessible infrastructure, providing assistive technologies, and training teachers to work with disabled students. Second, the expansion of vocational training programs tailored to the needs of PWDs is critical to enhancing their employability. These programs should be integrated into the broader educational system to provide a seamless transition from education to employment.

Employers should be encouraged to adopt inclusive hiring practices and provide reasonable accommodation for employees with disabilities. Legislation should be enforced more rigorously to ensure that PWDs are not excluded from the workforce due to discriminatory practices. Public awareness campaigns aimed at reducing stigma and changing societal attitudes about disability will also play an important role in promoting the inclusion of PWDs in education and employment.

Finally, expanding social protection programs such as the National Health Insurance Scheme and Livelihood Empowerment Against Poverty (LEAP) to better address the specific needs of PWDs can help reduce financial barriers and improve access to education and employment.

Community-driven Solutions and Advocacy

Community-driven solutions and advocacy have emerged as powerful tools in addressing the systemic barriers and social stigma faced by persons with disabilities (PWDs)

in Ghana. As formal policies and institutions often struggle to meet the needs of PWDs, grassroots movements and local initiatives have become instrumental in promoting inclusive education, healthcare, and social participation. These community-led efforts not only address immediate needs but also work toward changing societal attitudes, ensuring long-term transformation in the way disability is perceived and supported in Ghana.

In Ghana, grassroots advocacy has played a pivotal role in advancing the rights of persons with disabilities. Community-based organisations (CBOs) and local advocacy groups have been at the forefront of efforts to increase awareness about disability, reduce stigma, and push for inclusive policies. These organisations work directly with PWDs, providing support services such as counselling, legal assistance, and training, while also mobilising public opinion to challenge discriminatory practices (Naami et al., 2023). For example, the Ghana Federation of Disability Organisations (GFD) is one of the key advocacy bodies in Ghana that has been instrumental in pushing for policy changes, raising awareness about disability rights, and amplifying the voices of PWDs in national discussions. The GFD and other advocacy organisations have successfully lobbied for the passage of the Persons with Disabilities Act (Act 715) of 2006 and continue to advocate for its full implementation. Their efforts have helped to highlight the issues faced by PWDs in education, healthcare, and employment, and have led to some positive policy changes. However, the work of these organisations is ongoing, as they continue to push for greater accountability and improved conditions for PWDs across the country (Naami et al., 2023).

Community-Based Rehabilitation (CBR) is another example of a successful community-driven solution in Ghana. CBR is a multi-sectoral strategy that involves the active participation of local communities in the rehabilitation and social inclusion of persons with disabilities. The approach emphasises local involvement in providing services such as physical therapy, education, vocational training, and community sensitisation (Wickenden et al., 2012). In Ghana, CBR programs have been implemented in several regions, particularly in rural and underserved areas where access to specialised services is limited. These programs are designed to be flexible and context-specific, addressing the unique needs of local communities while empowering PWDs and their families to take an active role in rehabilitation and social participation. By focusing on local resources and expertise, CBR programs have been able to bridge the gap between formal services and the everyday needs of PWDs, particularly in areas such as transportation, education, and healthcare (Wickenden et al., 2012).

The participatory development model, which emphasises the involvement of local stakeholders in decision-making, has been critical in ensuring that disability policies and interventions are responsive to the actual needs of communities. In Ghana, community leaders, including religious leaders, chiefs, and local government officials, play an important role in shaping attitudes toward disability. By involving these local stakeholders in disability awareness campaigns and policy discussions, advocacy groups can create a more inclusive and supportive environment for PWDs (Mensah et al., 2022). For instance, local chiefs and religious leaders in Ghana have a significant influence on social norms and can either perpetuate stigma or help break it down. Some advocacy groups have partnered with these influential figures to promote disability inclusion in schools, workplaces, and public spaces. By engaging with local leaders, these groups ensure that disability-inclusive policies are not only adopted at the national level but also embraced by communities that traditionally hold exclusionary views toward PWDs (Grischow, 2021). The involvement of local figures ensures that policies are culturally appropriate and that the change is sustained within the community.

One of the most impactful areas of community-driven advocacy has been in the education sector. In many parts of Ghana, children with disabilities face enormous barriers to accessing education, often due to stigma, lack of infrastructure, and the belief that

children with disabilities are incapable of learning. However, local initiatives focused on awareness and enrollment have demonstrated significant success in increasing the participation of children with disabilities in education. For example, some community-based initiatives have used mapping exercises and sensitization forums to identify children with disabilities who are not enrolled in school and to encourage their families to send them to school. These initiatives often involve door-to-door outreach, meetings with parents and caregivers, and workshops to challenge misconceptions about disability. And highlight the importance of education for all children, regardless of ability (Duorinaah, 2023). Additionally, these campaigns work to ensure that local schools are prepared to accommodate children with disabilities by improving accessibility and ensuring that teachers are trained to support diverse learners.

Public education campaigns led by community organisations and disability advocacy groups are essential in reducing the stigma associated with disability. In Ghana, attitudes toward disability are often shaped by traditional and religious beliefs, which view disability as a curse or punishment (Kassah, 1998). To address these misconceptions, advocacy groups have launched public education campaigns designed to raise awareness about the rights of persons with disabilities and to challenge harmful stereotypes.

These campaigns use a variety of media, including radio, television, social media, and community gatherings, to reach a wide audience. By featuring stories of successful PWDs, highlighting the contributions that persons with disabilities can make to society, and sharing information about legal rights and available services, these campaigns aim to shift public perceptions and promote greater inclusion (Amoako et al., 2020). These efforts are particularly important in rural areas, where information about disability rights may be limited, and cultural attitudes are often more resistant to change.

Role of Non-Traditional Service Providers

Non-traditional service providers, such as local religious leaders, traditional healers, and even small-scale business owners, have also been identified as key players in the disability support ecosystem. In Ghana, these non-professional service providers are often more accessible to communities than formal healthcare providers or educators. By collaborating with traditional healers, pastors, and other community figures, disability advocacy groups have been able to integrate culturally relevant approaches to disability care and support into mainstream services (Wylie et al., 2020). This model ensures that disability services are not only medically effective but also culturally sensitive and more likely to be accepted by local communities. For example, some pastors have incorporated disability-inclusive teachings into their sermons and have advocated for the inclusion of persons with disabilities in church activities. Similarly, traditional healers have been involved in supporting the physical rehabilitation of individuals with disabilities, working alongside medical professionals to offer a holistic approach to care (Yekple, 2014). These non-traditional service providers help bridge the gap between formal disability services and the cultural context of Ghanaian society, ensuring that PWDs receive comprehensive care and support.

Religious institutions, particularly Christian churches and traditional African religious groups, hold a central position in Ghanaian society. These institutions often serve as sources of moral guidance and community support, making them powerful vehicles for promoting social change. In many communities, religious leaders are viewed as figures of authority and influence, and their attitudes toward disability can significantly impact how persons with disabilities are perceived and treated.

Some progressive religious leaders have taken an active role in advocating for the inclusion of PWDs in community life, particularly in education, employment, and religious activities. For instance, churches have been instrumental in providing accessible spaces, organising support groups, and encouraging inclusive teachings that challenge

harmful stereotypes about disability. Many churches in Ghana now organise disability awareness programs, support families of children with disabilities, and actively encourage their congregants to embrace disability inclusion (Mfoafo-M'Carthy et al., 2020). Some religious organisations even provide financial assistance or in-kind support for PWDs, helping to cover costs related to education, healthcare, or vocational training. In some instances, pastors and imams have used their platforms to educate the wider community about the rights of PWDs and the importance of social inclusion. By incorporating messages of acceptance and respect into sermons, religious leaders can reshape attitudes and reduce the stigma surrounding disability. This advocacy is essential in a context where traditional beliefs about disability, such as the association with evil spirits or moral punishment, often persist (Kassah, 1998). When religious leaders speak out in favour of inclusion, they can help shift societal attitudes, making it easier for PWDs to be accepted in both social and educational settings.

In many rural areas of Ghana, traditional healers are the first point of contact for individuals seeking medical or therapeutic assistance. These healers use a range of methods, including herbal medicine, spiritual healing, and physical therapies, to treat various ailments, including disabilities. While traditional medicine is often viewed with skepticism by the medical establishment, it remains a deeply rooted part of the healthcare system in Ghana, particularly in areas where access to formal healthcare services is limited.

Traditional healers, who are often trusted members of their communities, have the potential to play a transformative role in the rehabilitation of persons with disabilities. In some regions, traditional healers collaborate with healthcare professionals to offer integrated care, which combines medical treatment with traditional healing practices. For example, some PWDs in Ghana seek assistance from both medical doctors and traditional healers for the treatment of conditions such as physical disabilities, mental health issues, and developmental disabilities. In these cases, traditional healers help with pain management, mobility aids, and emotional support, providing care that is often unavailable through formal healthcare channels (Wylie et al., 2020).

Moreover, traditional healers often serve as valuable sources of social support. They are frequently called upon to mediate conflicts and offer counsel to individuals and families dealing with the social stigma associated with disability. Through their influence, healers can promote more inclusive attitudes, encouraging families to accept and care for children with disabilities, rather than ostracising them. By addressing both the physical and psychological aspects of disability, traditional healers can help reduce the burden on PWDs and their families.

In Ghanaian communities, chiefs, elders, and local community leaders wield significant influence. These leaders often mediate important decisions regarding social inclusion and play a pivotal role in advocating for the rights of PWDs. In many rural areas, traditional leaders are often the first to address community issues, including disability. They hold the power to shape public perceptions and provide a framework for community-based rehabilitation.

In some cases, chiefs have led efforts to ensure that persons with disabilities are integrated into local festivals, events, and public life, challenging the belief that PWDs are lesser members of society. Chiefs are also instrumental in convening community meetings where issues of disability can be discussed, and where the collective action needed to support PWDs can be organised. By using their authority to promote the inclusion of PWDs, traditional leaders can influence broader societal norms and encourage communities to prioritise accessibility in public spaces, schools, and healthcare facilities (Wickenden et al., 2012).

In addition to advocating for cultural change, local leaders in Ghana have often worked alongside disability organisations to lobby for policy changes at the national level.

They are key allies in campaigns for better infrastructure, increased funding for disability services, and the implementation of the Persons with Disabilities Act (Act 715). Through their work, these leaders help ensure that disability policies are not only adopted but also enforced within their communities.

Local Businesses: Providing Employment and Economic Empowerment

Local businesses, particularly small- and medium-sized enterprises (SMEs), have also become important players in the disability inclusion movement in Ghana. While the formal sector has historically been slow to hire persons with disabilities, local businesses are increasingly recognizing the potential benefits of hiring disabled workers. Many small businesses in Ghana are family-run or community-based and may be more willing to employ individuals with disabilities, especially if they are given proper training and support. Local business owners can provide employment opportunities to PWDs, helping them achieve economic independence and social inclusion. Moreover, some businesses are now incorporating disability-inclusive practices into their operations, ensuring that their stores, offices, and services are accessible to customers with disabilities. This includes making physical adaptations, such as installing ramps and providing alternative formats for printed materials, as well as employing inclusive hiring practices (Naami et al., 2023).

Collaboration Between Traditional and Formal Systems

The role of non-traditional service providers highlights the importance of a holistic, integrated approach to disability support. While formal systems such as healthcare institutions, schools, and government programs are essential for providing specialised care and services, non-traditional providers can offer a more culturally sensitive, accessible, and community-oriented form of support. By collaborating with traditional healers, religious leaders, and community groups, formal service providers can create a more comprehensive support network that meets the diverse needs of PWDs.

The integration of traditional and formal services is especially important in rural areas, where access to modern healthcare and educational institutions may be limited. Non-traditional service providers often bridge the gap between formal systems and local needs, ensuring that PWDs are not left behind due to geographic, economic, or cultural barriers. This collaborative approach also helps to promote greater social acceptance of PWDs, as it involves a wide range of stakeholders in the process of change.

CONCLUSIONS

Stigma and socio-cultural beliefs continue to be significant barriers to the inclusion of children with disabilities in Ghanaian schools and society at large. While some progress has been made in promoting disability rights and awareness, deep-seated cultural attitudes, especially in rural areas, perpetuate exclusion. It is, therefore, essential to continue challenging these beliefs through education, media representation, and community-based advocacy to create a more inclusive society. Changing public perceptions of disability will require sustained effort across all sectors, but the potential benefits of better educational outcomes, improved social integration, and enhanced quality of life for persons with disabilities are well worth the investment.

The correlation between education and employment for persons with disabilities in Ghana is deeply interlinked, with educational attainment being a key determinant of employment opportunities. However, systemic barriers, lack of infrastructure, societal stigma, and limited vocational training opportunities continue to hinder the full inclusion of PWDs in the workforce. To break this cycle, it is essential to implement policies that ensure access to inclusive education, provide vocational training opportunities, and promote disability-friendly workplaces. Moreover, enhancing social protection programs and ensuring the effective enforcement of existing disability rights laws are crucial steps

toward improving the quality of life and employment outcomes for persons with disabilities in Ghana.

Non-traditional service providers play an indispensable role in the lives of persons with disabilities in Ghana. Through their cultural influence, practical support, and advocacy, they help to fill the gaps left by formal systems and promote a more inclusive society. Religious leaders, traditional healers, community leaders, and local businesses have the potential to drive significant changes by challenging stigma, offering essential services, and creating opportunities for PWDs. To maximise their impact, it is crucial to support the collaboration between non-traditional service providers and formal systems, ensuring that all aspects of society contribute to the inclusion and empowerment of persons with disabilities.

Community-driven solutions and advocacy have been critical in advancing the rights and well-being of persons with disabilities in Ghana. Grassroots organisations, local leaders, and non-traditional service providers have played key roles in reducing stigma, increasing access to education, and promoting social inclusion. These efforts not only address the immediate needs of PWDs but also contribute to long-term changes in societal attitudes toward disability. Moving forward, it is essential to continue supporting and expanding these community-driven initiatives, ensuring that they remain inclusive, culturally relevant, and responsive to the needs of all persons with disabilities.

Contribution to Practice and Policy

Identification of persistent challenges such as infrastructural gaps, lack of teacher training, socio-cultural stigma, and insufficient funding provides important insights for policymakers and practitioners for special education to target these issues more effectively.

The findings of the study provide the need for stronger monitoring, more robust funding allocations, and greater community engagement about special education.

Recommendations

The integration of assistive technologies, community-based programs, and targeted stigma-reduction campaigns underscores practical actions that can drive systemic change in the education sector.

A more comprehensive approach to inclusive education with a particular focus on integrating disability issues into mainstream curricula and teacher training programs should be provided.

Limitations

There was insufficient attention to the relationship of disability with other factors, such as gender and poverty, which could further influence the educational outcomes of children with disabilities.

The findings were based on secondary sources, which may not fully capture the lived experiences of children with disabilities or the evolving dynamics of the educational system in Ghana.

Suggestions for Future Research

Future research should explore the intersectionality of disability, gender, and socioeconomic status in greater detail to understand the compounded barriers faced by specific groups.

Field-based studies that involve direct observations and interviews with children with disabilities, their families, and educators should be conducted to provide a better understanding of the current barriers and opportunities.

Longitudinal studies should be conducted to track the progress of policy implementation and its effects on both educational outcomes and the broader societal integration of persons with disabilities in Ghana.

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