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Original article

USING THE HEALTH EQUITY FRAMEWORK TO EXPLORE DISPARITIES IN THE MANAGEMENT OF CHILDHOOD LANGUAGE DISORDERS IN IBADAN: AN EXPLORATORY STUDY.

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Abstract

Introduction:

Children with language disorders are underserved and do not attract the required attention given their impact on health and broader life outcomes. Research guided by public health frameworks is needed to identify the spheres of influence that determine health outcomes. This study explored the determinants of health behaviours that dictate outcomes in children with language disorders using the Health Equity Framework (HEF).

Methods:

This qualitative study analyzed 36 semi-structured interviews among Speech-Language-therapists, teachers, and parents of children with language disorders using inductive coding and content analysis.

Results:

The paper examined health disparities in managing children with language disorders using the HEF, with all domains of the HEF being represented. The absence of systems of power leads to unfair access to necessary resources and opportunities for the promotion of health outcomes in children with language disorders. Family, kin, and communities play important roles in shaping health actions that can either promote or inhibit the fair distribution of services to these children. The cumulative experiences of seeking intervention and parental response to the social, behavioural, and environmental conditions contribute to health outcomes in children with language disorders.

Conclusion:

The findings indicate that the HEF offers a structured approach to understanding health disparities in children with language disorders, emphasizing the requirement for policy and process development to address context-related determinants of such disparities. This can guide and establish standards for management processes aimed at eliminating preventable health outcome discrepancies among children with language disorders in Nigeria.

Recommendation:

To promote health equity among children with language disorders, policymakers should use the Health Equity Framework to identify and address the factors that contribute to health disparities. Taking a comprehensive approach that considers the interplay of the HEF domains is crucial for developing effective interventions that ensure all children have equal opportunities to achieve good health.

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1. Introduction

In recent times, childhood language disorders have been identified as a condition of public health importance as studies have reported a prevalence of up to 7% in the child population globally1. Low and middle-income countries represent the demography with limited prevalence studies on childhood language disorders however a recent study has put the prevalence between 10 – 25% in African countries2. In Nigeria, the prevalence of language disorders in the child population has been reported to be 16.1%3. Language plays a crucial role in being the cornerstone of child development. Research reveals that language disturbances in early life lead to communication problems at an early age and difficulty in transition to literacy within the first few years of school. Thus, children with language disorders leave school without the skills required for further training and employment which puts them at a social and economic disadvantage4. Consequently, these poor outcomes impose a range of consequences on individuals, families, and the wider society.

Although childhood language disorders have been established to limit health, happiness, and achievements, children with language disorders remain grossly underserved5. Access to speech-language rehabilitation services is poorly distributed in Nigeria6 hence, families who need the services are least likely to access them. Studies have attempted to investigate factors that strengthen the disparities observed in the delivery of speech-language services and found socio-economic status, Poor parental education, fear of stigma, unavailability of services across geographic locations, and lack of understanding about the importance of Speech-Language services to be the major factors that enhance health inequities in the population 4, 8. Therefore, Promoting health outcomes amongst children with language disorders requires an understanding of the range of factors and complexities within the contextual setting that may influence health outcomes.

There is insufficient evidence to establish the use of theoretical frameworks in the investigation of factors that promote or inhibit fair access to resources and opportunities and subsequently health outcomes. Employing a theoretical framework to explore health outcomes in children with language disorders will likely advance our understanding of the interactions between individuals and their environment and how these interactions work in relation to each other to dictate health outcomes. Hence, this study adopts the Health Equity Framework in identifying representations of the interacting spheres of influence in the management of children with language disorders. Further, this provides a foundational basis for the use of public health frameworks in evaluating and promoting health outcomes among children with language disorders in Ibadan, Nigeria.

The Health Equity Framework, HEF is a well-suited tool to explore health outcomes in children with language disorders. It was developed on the foundations of public health, education, and social science to demonstrate how health outcomes are influenced by interactions between people and their environments9. The HEF centers on health outcomes at a population level using a systemic approach to understand complex interactions between an individual and the environment. The model is built on three foundational concepts; Equity at the Core of Health Outcomes, Multiple, Interacting Spheres of Influence, and Historical and Life-Course Perspective. Equity at the core of health outcomes involves recognizing that social determinants are the root causes of health disparities in children with language disorders and addressing them is essential to achieving health equity. Investigating this domain of the HEF may help shed light on the social inequities that are reinforced by organizations and institutional biases and contribute to health disparities. The multiple interacting spheres of influence domain of the framework highlights the implicit and explicit interactions of multilevel influences on health outcomes of children with language disorders while the historical and life course perspective shows

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how cumulative experiences across the life span and generations may promote the disparities experienced by children with language disorders. The application of the HEF to the study provides an opportunity to systematically examine the health disparities experienced in the management of children with language disorders and their impact on health outcomes.

2. Methods

2.1. Study design

The study adopted a Cross-sectional exploratory design and utilized a qualitative data collection approach to examine the health disparities experienced in the management of children with language disorders and the impact on health outcomes in Ibadan, Nigeria. Data were collected using in-depth interviews to get first-person information from participants.

2.2. Procedure and Participants

A qualitative study of 36 semi-structured interviews with parents and teachers of children with language disorders, as well as speech-language therapists involved in the management of children with language disorders. The study recruited parents and teachers from special schools in Ibadan between March and October 2021, and speech-language therapists were recruited from the tertiary health institution in Ibadan. Participants were selected based on purposive sampling and only parents and teachers of children diagnosed with language disorders were included, while those whose children had other conditions were excluded. Ethical approval was sought from the Oyo state ministry of Health Ethics Committee and all ethical considerations were adhered to.

2.3. Data Collection

Data was collected with the use of an interview guide which was administered across all categories of respondents. The guide probed for information on respondents' understanding of language disorders, management options available for children with language disorders, and factors that promote or impede engagement in recommended health actions and behaviours. Many of the interviews with parents were conducted in the local Yoruba language, while the rest was conducted in English. The interview sessions were recorded, while simultaneously taking notes and making relevant observations.

2.4. Data Analysis

The recorded interviews were transcribed. To minimize bias, member checking was done with study participants to review and comment on the data collected, including the interpretations made. Atlas. ti version 8 was used to organize transcripts after which open and axial coding was done. Selective coding was later conducted to identify representatives of the Health Equity model and fit into the model.

3. Results

A total of sixteen interviews were conducted with parents, sixteen with teachers, and four with Speech-language therapists. The mean age for parents was 43.6 years (S.D - 7.9, Range 34 – 61) while for teachers, it was 44.6 years (S.D - 6.1, Range 37 – 56). Speech therapists had a mean age of 34 years (S.D - 5.6, Range 28 – 43) and were the most educated of the group with three out of four having master's degrees.

3.1. Equity at the Core of health outcomes

Much is still not known about language disorders in communities despite the significant burden it places on society. There was limited access to preventative measures, awareness, and public enlightenment programs that promote the adoption and maintenance of health behaviours that enhance effective management. Intervention for children with language disorders was not equally distributed across geographical areas, as a result of organizational and institutional biases favouring the lodgement of Speech-language pathology (SLP) services to urban communities. This finding seems to be consistent across all categories of participants as shown in the quotes in Figure 1 above. Meanwhile, the rural population in Nigeria

Table 1: **Representations of the Equity at the Core of Health Outcomes domain of the HEF**

Domain	Themes	Description	Evidence
Equity at the Core of Health Outcomes	Spatial disadvantage	Institutional factors and biases that determine access to resources and opportunities needed to promote health outcomes	*"If we can take it closer to the community health centers, it will make the services available for children with language disorders and help them improve. Most of the services are only in the big cities"* **KII, Speech Therapist 3** *"I will say speech therapy centres should be created in special schools and in the communities so that people can have quick access to it"* **IDI, Teacher 3** *"The second thing is where to go to access the service, many times its not within easy reach and we have to travel far"* **IDI, Parent 1**

makes up 47% of the total population10. Biased policy development and implementation leave residents in certain areas at a spatial disadvantage as it manifests into unfair access to resources and opportunities critical to ensuring optimal outcomes in children with language disorders. Hence, promoting health outcomes involves an exploration of the social, economic, and environmental structures for actions and practices with the potential of limiting access to resources and opportunities that facilitate the best possible physical, emotional, and social well-being among children with language disorders.

3.2. Spheres of Influence

3.2.1. Systems of Power:

While there are few frameworks in place developed towards achieving improved rehabilitation services for persons with disabilities, quotes from the Speech therapist in Figure 2 above reflect that there is a lack of policy geared towards promoting a fair distribution or access to resources and opportunities that facilitate good health outcomes among children with language disorders in Nigeria. The absence of a leadership/governance framework that can be likened to the systems of power domain was evident as the promotion of access to resources and opportunities was poor and inadequate as reflected by the parents' and teachers' responses. This allows for the unfair advantage of some social, economic, and environmental groups over others. There were currently no processes that, guide the conduct of activities in the hospital settings, and/or emphasize the need for the provision of school-based services. In addition, there is a wide variation in management practices of language disorders as an intervention for language disorders was revealed to be sought in hospitals, religious homes, and traditional healing centres. These provide an avenue for more disparities in health outcomes. The role of enabling systems cannot be overemphasized as they are often carefully structured to repair historical and context-related enablers of health disparities. The implications of absent or poor systems of power are a lack of procedural standards and pathways, required to maintain adequate access to resources and opportunities that seek to promote health outcomes amongst children with language disorders. This finding is consistent with a previous study that identified the importance of coordinated efforts across policy and practice in addressing issues around access to resources and opportunities that determine health equity7.

Table 2: **Representations of the Multiple spheres of influence domain of the HEF**

Domain	Themes	Description	Evidence
Systems of Power	Poor community awareness Poor Government Support	System-related factors that may determine access to resources and opportunities needed to promote health outcomes	*"a lot of people do not know that they can undergo speech therapy services, they don't even know it exists. So I believe if there is awareness they know where to go for help"* **KII, Speech Therapist 3** *"Number one the government is not helping, I don't think there is any government intervention programs for them, many of those that we have are NGOs"* **IDI, Teacher 10** *"Also, it is not everyone that can afford to pay for the services in private hospitals and even Government hospitals"* **IDI, Parent 3**
Relationships and Network	Social capital and support Social influences	Socio-cultural and environmental factors that determine access to resources and opportunities needed to promote health outcomes	*"People also look for their intervention in other ways like going to religious institutions, herbalists and all that."* **KII, Speech Therapist 1** *"It is what parents hear from people in the society that pushes them to seek intervention"* **IDI, Teacher 18**
Individual Factors	Low self-efficacy	Individuals' behavioral response to social and environmental conditions that determine access to resources and opportunities needed to promote health outcomes	*"Time wasted in health facilities is a barrier after which parents often get below average services. So, this pushes most parents to try alternative health-seeking"* **IDI, Teacher 12** *"And again the environment determines what parents do and how fast parents will seek intervention, in some environments they will be naming the parents after the child, they will call them names like "the parents of imbecile" and many more. Parents keep children indoors because of this"* **KII Speech Therapist 3**
Physiological pathways	Co-morbidity	Biological and physiological factors that contribute to health disparities experienced	*"Sometimes these children have some other condition with language disorders which requires them to see a doctor first and because of that we are unable to manage them effectively"* **KII, Speech Therapist 1**

3.2.2. Relationships and Networks:

The pattern of influence observed in the relationship and network domain of the HEF had been earlier documented in previous studies that highlighted the importance of significant others such as extended family, neighbours, etc in engaging in activities that promote positive outcomes amongst children with language disorders. Members of the community serve as social support systems for persons with language disorders and are very influential in deciding the course of action to be taken during the intervention-seeking process. This is reflected in the quotes from teachers and Speech therapists in Figure 2 above. Social relationships and networks control health behaviours by providing information and creating norms that influence health habits11 and are derived from culture and societal values. These networks may facilitate health behaviours that promote health outcomes or reinforce behaviours that contribute to disparities experienced in the management of language disorders. The immediate family, kin, and community play important roles in nurturing health actions that either promote or inhibits the fair distribution of services to children with language disorders. Evaluating the variations in social relationships and networks gives a context to understanding the current facilitators of both positive and negative health outcomes and is critical to addressing the disparities in health outcomes. The current study provides the foundation for the exploration of social relationships and networks across contexts as a major step in reducing the preventable differences experienced in the management of children with language disorders.

3.2.3. Individual factors:

The majority of studies that have been conducted on health disparities in language disorder management attributed the preventable differences in health outcomes to factors that fall within the individuals' control5. Parents' responses to social, economic, and environmental conditions play huge roles in the determination of health outcomes for children with language disorders. Parents are naturally interested in seeking intervention for children with language disorders, however in response to the economic situation caring for a child with language disorder puts them in, many parents explored alternative approaches to intervention seeking many of which did not guarantee the minimum care required to promoting health outcomes thus contributing to the health inequities experienced by this category of persons. As shown in the teacher's quote in Figure 2 above, some parents' response to long hospital waiting was to seek intervention through alternative approaches. Similarly, Speech therapists report on how parents withdraw or isolate their children with language disorders as a response to certain social and environmental situations hence further limiting access to opportunities to promote health outcomes. Representations of individual factors of the HEF revealed a pattern of response amongst parents which manifests as low self-efficacy thus increasing the preventable differences in the management of children with language disorders.

3.2.4. Physiological pathways:

While the present study did not extensively explore the biological differences in children, it is plausible that biological and cognitive variations may have contributed to the health inequities experienced in the management of language disorders. Quotes from speech therapists revealed that children with language disorders and other comorbid conditions present symptoms with effects that may span across other spheres of influence hence making it difficult to manage the condition effectively. This may serve as a determinant in the distribution of access to resources and opportunities required to achieve optimal health outcomes. In a case of a child with a severe comorbid condition, parents felt the need to address the other condition as a response to the situation, the immediate relations also did not portray attitudes that facilitated health-promoting behaviours, thus quickly manifesting into a typical pattern of disparities in the management of language disorders. The resultant effects of physiological differences amongst individuals with language disorders interact with other spheres of influence to contribute to the unfair distribution

of access to resources and opportunities required to achieve health equity and optimal health outcomes.

3.3. Historical and Life-Course Perspective

Addressing health inequities from the historical perspective is a critical component that can be used in improving the inequities experienced in seeking care for children with language disorders globally. Individuals are shaped by social, historical, political, legal, etc forces which come together to form the individual context in relation to health concepts. Having knowledge about past experiences and the historical contexts in which language disorders have been conceptualized across cultures is central to the promotion of positive health activities which ultimately determine health outcomes. Quotes from teachers and speech-language therapists in Figure 3 above revealed how parents' construction of language disorders and the experiences gathered from their intervention-seeking journey have contributed to the health disparities experienced by these categories of children. Examining the life course of the condition sheds light on how cumulative life experiences including perceptions and interpretations of language disorders, intervention choices explored, and patterns of exploration may have directly or indirectly contributed to the health disparities observed in children with language disorders. In addition, it improves our understanding of the dynamics of previous systems of power and how they have worked to improve or undermine access to resources and opportunities to achieve the best health outcomes.

4. Discussion

The Health Equity model is a framework that has not found much use in public health. Studies have reported the determinants of health outcomes amongst children with language disorders to be a combination of individual and environmental factors[4,5,7]. The quality of resources, opportunities, and interactions between both individual and environmental domains facilitates positive or negative health behaviours that dictate health outcomes. Investigating the complex layers of influence and interactions that go on within these levels is important in developing strategies that seek to improve inequities observed in the health outcomes of children with language disorders. The current study explored and made representations of all three foundational concepts of the HEF model in understanding the interactions between the spheres of influence that determine health outcomes and found that asides from individual-level factors, the systems of power and the relationship and networks domain continued to play significant roles in determining health outcomes amongst children with language disorders.

5. Implication for Practice

Previous studies that have recommended approaches to improve health outcomes in children with language disorders have all focused on addressing the issues from the individual perspective5. Study findings suggest that the HEF provides a structured approach to addressing issues around unfair access to resources and opportunities. Improving health outcomes amongst children with language disorders must utilize a holistic approach that explores every domain of the HEF and its roles in facilitating or undermining health behaviours that promote positive health outcomes. The development of policies and processes that address present misconceptions in communities, and context-related determinants of health disparities, guides and sets standards for management processes that need to be made to eradicate the preventable differences in health outcomes amongst children with language disorders. Further research is required on the quantitative testing of the HEF with regard to health disparities amongst children with language disorders in order to establish hypotheses that can be tested and lead to more generalizable findings. Also, an exploration of communal misconceptions that influence language disorders outcomes will provide more insight into specific areas of concern that need to be translated and developed into actionable objectives that seek to improve health outcomes in the policy.

Table 3: **Representations of the Historical and life course domain of the HEF**

Domain	Themes	Description	Evidence
Historical and Life-course perspective	Perceptions Intervention journey	Lived experiences that provide context to the health disparities observed in the population	*"Some parents believe it is a spiritual problem hence they go through the traditional way of seeking intervention which may eventually lead to more disorders in the child"* **IDI, Teacher 4** *"Sometimes parents go to the wrong places seeking for help rather than going to see the professionals early enough, in the process, they make it late before going for the right intervention and by then its already worse"* **IDI, Speech Therapist 2**

Figure 1: The Health Equity Framework: Source: Peterson, Charles, Yeung & Coyle, 2021

6. Limitations

The study sought to provide in-depth insights into health disparities amongst children with language disorders using the model as a guide and as such findings are not generalizable as the model was not tested quantitatively. Also, the interview guide was not developed initially with the HEF in mind however; coding had been done inductively; authors categorized similar codes to fit into the HEF model which may be subject to criticism. Nevertheless, study findings suggest that the HEF model is a great tool in assessing health disparities and may serve as a base for the development of strategies that seek to promote health outcomes amongst children with language disorders.

7. Conclusion

The current study utilizes the HEF model to identify representations of the interacting spheres of influence and their collective impact on fair access to resources and opportunities that guarantees positive health outcomes amongst children with language disorders. The Systems of power, Relationship, Networks, Individual factors, and

Physiological pathway domains were well represented in the assessment of health disparities amongst children with language disorders, suggesting that the HEF is a complete framework for exploring the complex factors that facilitate positive health outcomes amongst children with language disorders.

8. Recommendation

Given that the Health Equity framework is a comprehensive tool for assessing health disparities among children with language disorders, healthcare providers and policymakers should consider utilizing this framework to identify and address factors that contribute to the inequities in access to resources and opportunities. Specifically, attention should be paid to the domains of Systems of power, Relationship and Networks, Individual factors, and Physiological pathways as these were found to have significant impacts on health outcomes for children with language disorders. By taking a holistic approach that considers the interplay of these domains, interventions can be developed that effectively target the root causes of health disparities in children with language disorders and ensure that all children have equal opportunities to achieve optimal health.

9. Acknowledgments

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10. List of Abbreviations

HEF: Health Equity Framework
SLP: Speech Language Pathology

11. Conflict of Interest

The author declares no conflict of interest.

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