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EFFECT OF COGNITIVE BEHAVIOURAL THERAPY ON SOCIAL SKILLS DEFICIT AMONG STUDENTS WITH HEARING IMPAIRMENT IN OYO STATE, NIGERIA

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ABSTRACT
Hearing Impairment (HI) is a condition that limits an individual's ability to perceive sound and often results in communication difficulties, delayed speech development, and challenges in social interaction and emotional adjustment. Among students with hearing impairment (SwHI), these challenges frequently manifest as deficits in social skills. In Southwest Nigeria, many students with hearing impairment struggle with effective social interaction, which may affect their integration in school and society. While previous studies have largely focused on academic interventions, speech therapy, and assistive technologies, limited attention has been given to psychological interventions such as Cognitive Behavioural Therapy (CBT) in addressing social skills deficits. This study therefore examined the effect of Cognitive Behavioural Therapy on social skills deficits among senior secondary school students with hearing impairment in Oyo State, Nigeria, while also considering gender as a moderating variable. The study adopted a pretest–posttest control group quasi-experimental design. Two Local Government Areas; Ibadan Northwest and Oyo East, were randomly selected, while three senior secondary schools were purposively chosen based on the presence of students with hearing impairment. A total of 36 students with hearing impairment, screened within a hearing threshold of 71–90 dB SPL, participated in the study. Participants were assigned to a CBT treatment group (24) and a control group (12). Data were collected using the Social Skills Deficit Assessment (r = 0.92), Social Skills Rating Scale (r= 0.91), and instructional guides. The intervention lasted eight weeks, and data were analysed using descriptive statistics and Analysis of Covariance at the 0.05 significance level. Findings revealed a significant effect of CBT on improving social skills among students with hearing impairment. However, gender had no significant influence, indicating that CBT effectively enhanced social skills regardless of gender.

***Keywords**: Students with Hearing Impairment in Oyo State, Cognitive behavioural therapy, Social skills deficit.*

INTRODUCTION

It is worth noting that education is concerned not only with the transmission of knowledge but also with the development of behaviours and competencies that enable individuals to function effectively in society. One of the most essential of these competencies is social skills. It is the ability to communicate, interact, interpret social cues, and build meaningful relationships (Baker & Stokes, 2019). For students, especially those in formal school settings, social skills are closely tied to academic success, emotional well-being, and future integration into the wider community (Omoniyi, 2023). However, not all learners acquire these skills with ease (Cook, Gresham, Kern, Barreras, Thornton & Crews, 2008). It is discovered that students with hearing impairment often face distinct challenges that place them at a disadvantage in social interactions. Hearing impairment limits access to auditory information, which is central to language development and communication. As a result, many students with hearing impairment experience delays in language acquisition, difficulties in expressive and receptive communication, and reduced opportunities for incidental learning that occurs naturally through everyday interactions (Biggs, Carter & Gustafson, 2013).

In a typical classroom environment, where verbal instruction dominates and peer interactions are largely speech-based, these students may struggle to participate fully. Over time, such limitations can lead to withdrawal, low self-esteem, frustration, and difficulties in forming and maintaining social relationships. According to Baker & Stokes (2019), these challenges are further compounded by systemic and environmental factors. While there have been efforts to promote inclusive education, several schools still lack adequate resources, trained personnel, and supportive structures to meet the needs of students with hearing

impairment. Communication barriers between teachers and students, as well as between hearing-impaired students and their hearing peers, often persist. Consequently, these students may become isolated within the classroom, not necessarily due to unwillingness to interact, but because of structural and communicative constraints that limit their engagement.

Social skills are not innate; they are learned behaviours shaped through interaction, observation, and guided practice (Hargie, 2011). For students with hearing impairment, the natural processes through which these skills are acquired are often disrupted. This disruption can manifest in various ways, including difficulty initiating conversations, misunderstanding social cues, inappropriate responses in social situations, and challenges in conflict resolution (Gresham & Elliott, 2008). Over time, these difficulties may affect not only their peer relationships but also their academic performance, as collaborative learning and classroom participation are integral components of modern educational practices. The need to address these challenges has led several stakeholders such as teachers and researchers to explore various strategies and therapies that can support the social skills of students with hearing impairment. One of such interventions is Cognitive Behavioural Therapy (CBT).

Cognitive Behavioural Therapy (CBT) is a structured, goal-oriented approach that focuses on the relationship between thoughts, emotions, and behaviours. It operates on the premise that maladaptive behaviours and emotional difficulties are often rooted in distorted or unhelpful thinking patterns. It is believed that in helping individuals identify, challenge, and replace these patterns, CBT aims to promote healthier behaviours and more adaptive ways of interacting with others (Baker & Stokes, 2019). CBT has been adapted to address a range of behavioural and emotional challenges, including anxiety, aggression, low self-esteem, and social withdrawal. Its emphasis on skill-building, self-awareness, and behavioural practice makes it particularly relevant for improving social skills. Through techniques such as role-playing, modelling, reinforcement, and guided reflection, students can learn how to interpret social situations, respond appropriately, and build confidence in their interactions (Hofmann, Asnaani, Vonk, Sawyer & Fang, 2012).

For students with hearing impairment, CBT offers a structured framework that can be explained in terms of their specific communication needs. Visual aids, sign language, and simplified language can be incorporated into CBT sessions to ensure accessibility. Moreover, the focus on observable behaviours rather than purely verbal expression makes CBT adaptable for learners who may have limited spoken language proficiency (Beck, 2011). Thus, engaging students in practical exercises and real-life scenarios, CBT can help bridge the gap between understanding social norms and applying them in everyday interactions. Despite the potential of CBT, its application in special education schools or classrooms in Nigeria, particularly in Oyo State, remains limited. Much of the existing support for students with hearing impairment tends to focus on academic instruction and basic communication skills, often overlooking the social and emotional dimensions of learning. Again, in a situation where strategies or therapies for social skills do exist, they are frequently informal and poorly utilised.

Furthermore, cultural attitudes and societal perceptions of disability can influence the experiences of students with hearing impairment. In some cases, stigma and misconceptions may lead to reduced expectations, social exclusion, or overprotection, all of which can hinder the development of independence and social competence. Within the school environment, peers may lack awareness or understanding of how to interact effectively with hearing-impaired classmates, leading to limited social engagement. It is believed that without intentional and well-designed strategies, these patterns can persist, reinforcing cycles of isolation and underdevelopment of social skills. Another issue relates to teacher preparedness. Many teachers in mainstream and special schools may not have received adequate training in behavioural interventions such as CBT. Even when teachers recognise the social challenges faced by their students, they may lack the tools and strategies needed to address them effectively. This situation explains the importance of introducing evidence-based strategies like CBT that can be integrated into classroom practice and supported through professional development.

In the same vein, the consequences of poor social skills extend beyond the classroom. As students with hearing impairment transits into adulthood, their ability to navigate social environments becomes increasingly important. Employment, community participation, and personal relationships all require a level of social competence. Without early intervention, difficulties in social interaction can limit opportunities and affect quality of life. Therefore, addressing social skills during the school years is not only an educational priority but also a matter of long-term social inclusion. Cognitive Behavioural Therapy presents a promising option, but its effectiveness in teaching social skills requires empirical research. It is not enough to assume that a strategy that works in one classroom environment will automatically yield the same results in another; there is a factor of local evidence, which is essential.

Gender is an important variable to consider in understanding how students respond to strategies aimed at improving social skills, particularly in a diverse classroom such as that of students with hearing impairment. As a moderating variable, gender does not simply determine social skills on its own but may influence how effective a therapy like Cognitive Behavioural Therapy (CBT) works for different groups of students. Socialisation patterns often differ for male and female students due to cultural expectations, communication styles, and behavioural norms (Wolters, Knoors, Cillessen & Verhoeven, 2011). For instance, female students are often encouraged to express emotions and engage in cooperative interactions, while male students may be socialised towards independence and less expressive forms of communication. These patterns can shape how students interpret social situations, respond to feedback, and engage in therapeutic activities (de Bruin, Zijlstra & Bögels, 2014).

Worthy to note is that, these gendered patterns may become more pronounced due to communication barriers and limited social exposure (Antia, Jones, Reed & Kreimeyer, 2009). This is because male students with hearing impairment may be more likely to withdraw or exhibit less verbal engagement during therapy sessions, while female students may show greater willingness to participate in interactive and expressive components of the intervention. As a result, the same therapeutic approach may yield different levels of improvement depending on gender (Batten, Oakes, & Alexander, 2014). This moderating role of gender helps to explain variations in outcomes that cannot be attributed to treatment alone (Wolters, Knoors, Cillessen & Verhoeven, 2011). Recognising gender as a moderating variable therefore provides a more knowledge about therapy effectiveness. It suggests that therapeutic programmes should be sensitive to gender-related differences in communication and engagement. For example, facilitators may need to adopt varied strategies that encourage participation across both male and female students, ensuring that each group benefits fully from the therapy. In the situation of this study, examining the interaction between treatment and gender offers knowledge into how social skills development can be enhanced in a way that is both inclusive and responsive to individual differences.

This study is therefore situated within the effort to improve social skills of students with hearing impairment. It seeks to examine whether CBT can serve as a viable approach to enhancing social skills in this population. Thus, focusing on observable changes in behaviour and interaction, the study aims to provide practical knowledge that can inform teaching practices, policy decisions, and future research. At the heart of this investigation is a concern that many students with hearing impairment continue to experience difficulties in social interaction despite being enrolled in school.

Research Objectives

Based on the stated hypotheses, the specific objectives of the study are to:

1. Examine the effect of treatment (Cognitive Behavioural Therapy) on social skills deficit among students with hearing impairment.
2. Determine the influence of gender on social skills deficit among students with hearing impairment.
3. Investigate the interaction effect of treatment and gender on social skills deficit among students with hearing impairment.

Hypotheses

Based on the stated objectives, the null hypotheses can be formulated as follows:

H_{01}: There is no significant effect of treatment (Cognitive Behavioural Therapy) on social skills deficit among students with hearing impairment.

H_{02}: Gender has no significant influence on social skills deficit among students with hearing impairment.

H_{03}: There is no significant interaction effect of treatment (Cognitive Behavioural Therapy) and gender on social skills deficit among students with hearing impairment.

METHODOLOGY

This study adopted a quasi-experimental pretest–posttest control group design. The design was considered appropriate because it enabled the researcher to examine the effect of Cognitive Behavioural Therapy (CBT) on social skills deficits among students with hearing impairment while controlling for initial differences among participants using pretest scores as covariates.

Study Setting

The study was conducted in selected special and inclusive secondary schools in Oyo State, Nigeria, where students with hearing impairment are enrolled. Specifically, the schools were in Ibadan North-West Local Government Area and Oyo East Local Government Area. To ensure consistency and reduce the influence of extraneous variables, intervention sessions were conducted in designated quiet classrooms within the selected schools, which provided a controlled and distraction-free environment conducive to interaction and therapeutic activities. Each session was conducted during the same period of the school day and under similar classroom conditions to maintain uniformity in the treatment process. The rooms were adequately ventilated and arranged in a semi-circle seating format to encourage participation, visibility of gestures, and effective communication among participants.

Participants and Sampling Procedure

The population for the study comprised students with hearing impairment enrolled in special and inclusive secondary schools in Oyo State. A purposive sampling technique was used to select participants who met the inclusion criteria, including students diagnosed with hearing impairment and actively enrolled in school. A total of 36 students who met the hearing threshold criteria participated in the study. The participants were assigned into two groups: the Cognitive Behavioural Therapy (CBT) group (24) and the control group (12).

Instruments

Two major instruments were used for data collection:

Social Skills Deficit Assessment Scale (SSDAS): This instrument measured students' level of social skills deficit, including aspects such as communication skills, cooperation, empathy, and behavioural adjustment. The scale consisted of structured items rated on a Likert-type format. The instrument had been previously validated and demonstrated high reliability with a coefficient of 0.92.

Social Skills Rating Scale (SSRS): This scale assessed observable social behaviours such as interaction with peers, participation in group activities, and appropriate response in social situations. The reliability coefficient of the instrument was 0.91, indicating strong internal consistency.

Cognitive Behavioural Therapy Instructional Guide: A structured CBT manual was developed by the researchers to guide the intervention sessions. The CBT content focused on identifying negative thoughts and maladaptive beliefs, restructuring irrational thinking patterns, emotional regulation techniques, social communication training, role-playing of real-life social situations,

guided practice and feedback. The guide ensured uniformity in the delivery of the therapy across sessions and schools.

Procedure for Data Collection and Treatment Implementation

Prior to the intervention, participants were gathered in small groups within their respective schools in designated classrooms. The pretest was administered using the Social Skills Deficit Assessment Scale and Social Skills Rating Scale to establish baseline measures of participants' social skills. The CBT intervention lasted eight weeks, with sessions conducted twice weekly. Each session lasted approximately 45–60 minutes and was facilitated by trained research assistants under the supervision of the researchers. To ensure consistency across schools, the sessions followed the same CBT instructional guide, schedule, and classroom arrangement. Participants in the CBT group engaged in structured activities such as guided discussions, cognitive restructuring exercises, role-playing of social interactions, behavioural rehearsal, peer interaction activities, feedback and reflection sessions. The control group, on the other hand, continued with their regular school activities and did not receive any structured therapeutic intervention during the study period. At the end of the intervention period, the post-test was administered using the same instruments to assess changes in participants' social skills.

Ethical Considerations

Ethical principles were strictly observed throughout the study. Permission was obtained from school authorities, and informed consent was secured from participants and their guardians. Participation was voluntary, and participants were assured of confidentiality and anonymity. They were also informed of their right to withdraw from the study at any stage without any consequences.

Method of Data Analysis

Data collected from the pretest and post-test were analysed using Analysis of Covariance (ANCOVA). This statistical technique was used to control pre-existing differences in participants' pretest scores while examining the main effects of treatment and gender, as well as their interaction effect on social skills deficits among students with hearing impairment. All hypotheses were tested at the 0.05 level of significance.

RESULTS

Table 1: Socio-Demographic Characteristics of the participants

Name of School	**Frequency**	**Percentage (%)**
Methodist Grammar School Bodija, Ibadan	14	38.8
Durbar Grammar School Durbar , Oyo	11	30.6
Ijokodo High School Ijokodo, Ibadan	11	30.6
Total	**36**	**100.0**
Treatment	**Frequency**	**Percentage (%)**
Cognitive Behavioural Therapy (Group I)	24	66.7
Convention Method (Control Group)	12	33.3
Total	**36**	**100.0**
Age Group	**Frequency**	**Percentage (%)**
15 to 16 years	14	38.9
17 to 18 years	15	41.7
19 to 21 years	7	19.4
Total	**36**	**100.0**
Gender	**Frequency**	**Percent**
Male	14	50.0
Female	22	50.0
Total	**36**	**100.0**

Table 4.1 presents the socio-demographic characteristics of the participants involved in the study. A total of 36 respondents were sampled across three schools. The largest proportion of participants (38.8%) was drawn from Methodist Grammar School, Bodija, Ibadan, while Durbar Grammar School, Oyo, and Ijokodo High School, Ibadan, each contributed 30.6% of the sample. This indicates a balanced distribution of participants across the selected schools, although slightly more respondents came from Methodist Grammar School. Regarding treatment groups, 66.7% of the participants were assigned to the Cognitive Behavioural Therapy (CBT) group, while 33.3% were in the control group that received the conventional teaching method. This suggests that a greater proportion of respondents were exposed to the intervention compared to the control condition. In terms of age distribution, most participants (41.7%) were between 17 and 18 years, followed by those aged 15 to 16 years (38.9%), while a smaller proportion (19.4%) were within the 19 to 21 years age bracket. This shows that most respondents were in their mid-to-late adolescence. Finally, the gender distribution of the participants indicates that 14 (38.9%) were male while 22 (61.1%) were female.

Testing of Hypotheses

H_{01}: There is no significant effect of treatment (Cognitive Behavioural Therapy) on social skills deficit among students with hearing impairment.

Table 2: ANCOVA Summary of Cognitive Behavioural on Social Skills deficit among students with Hearing Impairment

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	876.107[a]	18	48.673	1.932	.091	.672
Intercept	3930.774	1	3930.774	156.057	.000	.902
Treatment	286.257	2	143.128	5.682	.013	.401
Gender	9.811	1	9.811	.390	.541	.022
Pretest	11.492	1	11.492	.456	.508	.026
Treatment * Gender	151.349	2	75.675	3.438	.034	.351
Error	428.198	17	25.188			
Total	499505.000	36				
Corrected Total	1304.306	35				

a. R Squared = .672 (Adjusted R Squared = .324)

The analysis of covariance (ANCOVA) was conducted to determine the effect of Cognitive Behavioural Therapy (CBT) and Integrative Therapy on social skills deficit among students with hearing impairment, while controlling pretest scores and gender. The result revealed that the main effect of treatment was statistically significant ($F_{(2,17)} = 5.682$, $p<.05$, Partial Eta Squared =.401). This indicates that there was a significant difference in post-test social skills scores among the treatment groups. Therefore, the null hypothesis (H_{O1}) was rejected. This suggests that the intervention, particularly Cognitive Behavioural Therapy had a meaningful impact on improving the social skills of students with hearing impairment. The effect size ($\eta^2 = .401$) indicates a substantial practical effect, showing that treatment accounted for a considerable proportion of the variance in social skills.

H02: There is no significant effect of gender on social skills deficit among students with hearing impairment in Oyo State.

The result also showed that gender had no significant main effect on social skills ($F_{(1,17)}=0.390$, $p>.05$, Partial Eta Squared =.022). This implies that male and female students did not significantly differ in their post-test social skills scores. Hence, the null hypothesis (H_{02}) was retained. Gender alone does not appear to influence how students respond in terms of social skills.

H03: There is no significant interaction effect of treatment and gender on social skills among students with hearing impairment in Oyo State.

The interaction effect between treatment and gender was statistically significant ($F(2,17) = 3.438$, $p < .05$, Partial Eta Squared = .351). This result led to the rejection of the null hypothesis (H_{03}). It implies that the effectiveness of the treatment varies across gender. In other words, male and female students responded differently to the therapeutic interventions, suggesting that gender may play a moderating role in how treatment influences social skills.

DISCUSSION OF FINDINGS

Effect of Treatment (Cognitive Behavioural Therapy) on Social Skills Deficit

The finding that treatment had a statistically significant effect on social skills deficit indicates that both Cognitive Behavioural Therapy (CBT) are effective in improving the social skills of students with hearing impairment. This aligns with existing literature which emphasises that structured therapeutic interventions can positively influence behaviour, cognition, and interpersonal functioning. CBT focuses on helping individuals identify and modify maladaptive thoughts and behaviours, thereby promoting more adaptive social responses (Beck, 2011; Hofmann et al., 2012). The significant improvement observed in this study supports the argument that when students are guided to rethink social situations and practise appropriate responses, their ability to function socially improves. This finding is also consistent with the work of Baker and Stokes (2019), who reported that CBT-based interventions enhance social skills development in children by promoting self-regulation and social awareness.

Similarly, Cook et al. (2008) found that structured social skills training programmes significantly improve interaction patterns among students with behavioural challenges. For students with hearing impairment, whose social difficulties are often linked to communication barriers, such interventions provide a framework for learning and practising effective interaction strategies. The substantial effect size reported in this study further strengthens the argument that treatment plays a major role in shaping social. This supports Bandura's (2001) social cognitive theory, which posits that behaviour is learned through observation, modelling, and reinforcement. Through CBT, students are exposed to guided learning experiences that allow them to observe appropriate behaviours and practise them in safe environments. Studies such as Biggs et al. (2013) also emphasise the importance of structured interaction in improving peer relationships, reinforcing the idea that intentional intervention is necessary for social development.

Studies like Calderon & Greenberg, (2011); Dirks et al. (2016) have shown that deaf and hard-of-hearing students often experience delays in social and emotional development due to limited access to communication and incidental learning. Therefore, the effectiveness of CBT in this study highlights their relevance as practical tools for addressing these gaps. It suggests that when appropriate interventions are introduced, students with hearing impairment can achieve meaningful improvements in social skills, thereby enhancing their participation in both academic and social contexts.

Effect of Gender on Social Skills Deficit

The finding that gender had no significant effect on social skills deficit suggests that male and female students with hearing impairment exhibited similar levels of social performance after the intervention. This indicates that gender, as an independent variable, does not play a decisive role in determining social skills deficit outcomes in this context. This finding aligns with studies that have reported minimal or inconsistent gender differences in social competence among children with special needs, particularly when structured interventions are applied. For instance, Wolters et al. (2011) found that while gender may influence certain aspects of peer acceptance, its effect is often overshadowed by other variables such as communication ability and educational setting. Similarly, Antia et al. (2009) emphasised that the academic and social

progress of students with hearing impairment is more strongly influenced by classroom environment and support systems than by gender differences. This suggests that when appropriate interventions are in place, both male and female students can benefit equally.

The absence of a significant gender effect in this study may also be explained by the nature of the intervention. CBT is a structured approaches that focus on skill acquisition and behavioural change, which are applicable across gender groups. As noted by Pilling and Roth (2014), CBT is designed to address universal cognitive and behavioural patterns, making it effective for diverse populations. This universality may reduce the likelihood of gender-based differences in outcomes. Furthermore, the finding reflects the shared challenges faced by students with hearing impairment, regardless of gender. Communication barriers, limited access to social cues, and reduced opportunities for interaction are common experiences that cut across male and female students (Batten et al., 2014; Most et al., 2012). These shared experiences may contribute to similar patterns of social skills, thereby minimising gender differences. However, it is important to note that while gender did not have a direct effect, it does not mean that it is entirely irrelevant.

Other studies have suggested that gender may influence social behaviour in subtle ways, such as communication style and emotional expression (Hargie, 2011). Nevertheless, within the context of this study, these differences were not strong enough to produce statistically significant variations in social outcomes.

Interaction Effect of Treatment and Gender on Social skills deficit

The significant interaction effect between treatment and gender indicates that the effectiveness of the intervention varied across male and female students. Although, gender alone did not significantly influence social skills, its interaction with treatment suggests that it plays a moderating role. This finding provides a deeper understanding of how interventions work, showing that outcomes are not determined solely by treatment but also by how individuals engage with that treatment. This result is supported by Bandura's (2001) assertion that personal factors interact with environmental influences to shape behaviour. In this case, gender may influence how students respond to therapeutic activities, such as role-playing, group interaction, and emotional expression. For example, some studies suggest that female students may be more receptive to expressive and collaborative activities, while male students may respond differently to structured interventions (Hargie, 2011). These differences can affect the extent to which each group benefits from therapy.

The finding is also consistent with research indicating that intervention outcomes can vary based on individual characteristics. Didden et al. (2006) noted that behavioural interventions often produce different effects depending on participants' personal attributes, including their level of engagement and responsiveness. Similarly, Glickman (2009) emphasised that therapeutic approaches for individuals with hearing impairment must consider individual differences, including communication style and social orientation. In the context of hearing impairment, the interaction effect may reflect differences in how male and female students cope with communication challenges. Studies such as Stevenson et al. (2015) have shown that emotional and behavioural responses to hearing impairment can vary, which may influence how students participate in therapy. The significant interaction effect observed in this study therefore highlights the importance of adopting flexible and inclusive intervention strategies that accommodate these differences.

This finding suggests that while CBT is effective, their implementation should be sensitive to gender-related variations in engagement and response. This has practical implications for educators and therapists, who may need to adapt their approaches to ensure that all students benefit fully from the intervention.

Conclusion

The study established that therapeutic interventions, particularly Cognitive Behavioural Therapy, significantly improved the social skills of students with hearing impairment in Oyo State. The findings show that structured behavioural interventions can help students develop better interaction skills, improve communication, and function more effectively in social settings. While gender did not independently influence social skills, the interaction between treatment and gender was significant, indicating that the impact of therapy differs between male and female students. This highlights the need to consider gender responsiveness when designing and implementing interventions. The study also showed that pre-existing differences in social skills did not significantly affect outcomes, suggesting that the improvements observed were largely attributable to the interventions. The findings reinforce the importance of incorporating structured therapeutic approaches into the educational support system for students with hearing impairment.

Recommendations

1. Schools should incorporate Cognitive Behavioural Therapy into their support services for students with hearing impairment, given its proven effectiveness in improving social skills.
2. Educators and therapists should design intervention programmes that consider gender differences in response to treatment, as the study found a significant interaction between treatment and gender.
3. Teachers, special educators, and school counsellors should be trained in basic CBT techniques to enable them to support students' social development within the classroom setting.
4. Intervention programmes should be introduced early in students' educational journey to address social skill deficits before they become deeply rooted.
5. Educational authorities in Oyo State should provide the necessary resources, including trained personnel and materials, to implement evidence-based interventions such as CBT and Integrative Therapy in schools.

Limitation of the Study

Despite the strengths of this study, certain limitations should be acknowledged. First, the study adopted a quasi-experimental design, which did not allow for complete randomisation of participants into treatment and control groups. Although efforts were made to minimise bias using a pretest–posttest design and Analysis of Covariance (ANCOVA) to control for initial differences, the absence of full randomisation may limit the extent to which causal inferences can be made. Second, the sample size was relatively small (36 participants) and drawn from only a few selected schools in Oyo State, Nigeria. As a result, the findings may not be fully generalisable to all students with hearing impairment in other regions or educational contexts. Third, the duration of the intervention was limited to eight weeks. While the results indicated improvements in social skills among participants who received Cognitive Behavioural Therapy, the study did not examine the long-term sustainability of these outcomes. Additionally, although measures were taken to maintain uniform conditions across schools, minor variations in school environments, time schedules, and participant interactions could have introduced extraneous influences beyond the control of the researcher.

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