

Critical Role of Family Support in the Linguistic Development of Children with Cochlear Implants

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Purpose: To explore how families support and adapt to their child's language development following cochlear implantation in Saudi Arabia. Although international research has explored these factors, fewer qualitative studies have examined how family dynamics, parental self-efficacy, and perceptions of professional services intersect in shaping parents' interpretations of their children's linguistic outcomes in the Saudi context.

Participants and Methods: Eighteen parents (10 mothers and 8 fathers) of children with cochlear implants aged 2–12 years in Riyadh participated in semi-structured Arabic interviews. The parents' ages ranged from 27 to 45 years, and their educational backgrounds varied from high school to postgraduate degrees. Transcripts were analyzed thematically following Braun and Clarke's six-phase framework.

Results: Four themes emerged family support and engagement, parental self-efficacy and language strategies, perceptions of professional services, and early intervention. Parents emphasized consistent home practice, sibling involvement, and culturally appropriate communication routines but reported challenges related to limited access and coordination of services.

Conclusion: Findings highlight the need for family-centered, culturally responsive rehabilitation programs that strengthen parental confidence and ensure timely intervention to optimize language outcomes for children with cochlear implants.

Keywords: cochlear implants, family involvement, language development, parental self-efficacy

Introduction

Family support plays a pivotal role in shaping the linguistic and cognitive outcomes of children with cochlear implants. Extensive research demonstrates that active family engagement enhances the effectiveness of rehabilitation, strengthens children's communicative competence, and fosters sustained language growth.^{1–3} Children who benefit from supportive family environments achieve superior language outcomes compared with those receiving limited familial involvement.⁴

Beyond general involvement, parents' attitudes toward professional services and their confidence in facilitating language development significantly affect rehabilitation outcomes.^{5,6} Positive perceptions of audiological and speech-language services encourage consistent participation and alignment between professional guidance and home-based practice. In contrast, limited access, insufficient communication, or cultural incongruence between families and professionals can hinder parents' engagement and weaken intervention effects.

The timing of diagnosis and intervention also influences language outcomes. Early detection and initiation of rehabilitation improve parental confidence and participation, which in turn promote children's linguistic progress.^{7,8} Conversely, delayed identification or fragmented follow-up services can undermine family motivation and delay children's developmental milestones.

Despite the strong evidence linking family engagement with successful rehabilitation, notable gaps remain in the literature. Much of the existing research has examined these dimensions separately, focusing either on parental self-efficacy, family dynamics, or professional collaboration, rather than their interaction within a unified framework.

Furthermore, few qualitative studies have explored these relationships in non-Western contexts, where cultural values and service systems differ substantially.

Accordingly, the present study investigates how families in Saudi Arabia support and adapt to their children's language development after cochlear implantation. It examines parental self-efficacy, family dynamics, and perceptions of professional services, while considering the timing of early intervention. This research aims to generate a contextually grounded understanding that informs culturally responsive, family-centered rehabilitation practices.

Conceptual Framework

This study is grounded in a family-centered conceptual framework that integrates ecological and self-efficacy perspectives to explain how familial, individual, and systemic factors interact to shape linguistic development among children with cochlear implants.

Drawing on Bronfenbrenner's ecological systems theory,⁹ the framework situates the family as the child's primary microsystem, where language learning is embedded within everyday interactions and routines. The mesosystem—comprising relationships among families, educators, and clinicians—further influences access to resources and the coordination of support services.

Complementing this ecological view, Bandura's theory of self-efficacy¹⁰ underscores the importance of parents' beliefs in their capacity to facilitate their child's language acquisition. Parents with strong self-efficacy employ more effective communication strategies, such as parallel talk, open-ended questioning, and language expansion, while those with lower confidence tend to rely on less interactive techniques.

Within this framework, four interrelated domains shape children's post-implantation language outcomes:

1. Family engagement and emotional support the quality and consistency of the family's involvement in daily communication and rehabilitation activities;
2. Parental self-efficacy, confidence in the ability to promote language learning and manage challenges;
3. Perceptions of professional services, the degree of satisfaction with accessibility, responsiveness, and collaboration with clinicians; and
4. Early intervention timing, how the age of identification and initiation of services influence family participation and child outcomes.

Together, these constructs form a coherent model illustrating how supportive family environments, empowered parents, effective professional partnerships, and timely interventions interact to foster optimal linguistic development in children with cochlear implants.

Research Questions

This study seeks to examine the multifaceted ways in which families contribute to the language development of children with cochlear implants, with particular attention to the Saudi Arabian context. The inquiry is guided by four central questions: (1) In what ways does family involvement facilitate the rehabilitation and linguistic progress of children with cochlear implants? (2) How does parental self-efficacy influence engagement in language development practices and the adoption of facilitative strategies? (3) In what manner do parents' perceptions of audiology and speech-language services shape their participation in rehabilitation processes? and (4) How do early identification and the timing of intervention affect parental confidence and involvement over time? These questions are grounded in existing theoretical frameworks and empirical findings and aim to capture the complexity of familial roles in post-implantation language development.

Materials and Methods

Research Design

This study adopted a qualitative research design to explore the impact of family support on the language development of children with cochlear implants. Semi-structured interviews were conducted with the children's parents to obtain in-depth

insights into their experiences and perspectives. This approach enabled flexible probing and prompted follow-up questions, facilitating a comprehensive understanding of participants' viewpoints.

The interviews were conducted in Arabic. The study was conducted in Riyadh, Saudi Arabia, where access to audiology and speech-language services varies across socioeconomic groups.

Formulation of Research Questions

The research questions were developed through a deductive process informed by a comprehensive review of existing literature and conceptual models. Foundational studies—such as those by Holt and Svirsky,² Holzinger et al.,¹ and DesJardin and Eisenberg⁶ highlighted key themes related to family support, parental self-efficacy, and their impact on language development in children with cochlear implants. Additionally, studies by Kelly and Drasgow⁵ and Calderon et al.⁷ informed the inclusion of questions related to service perceptions and the timing of early intervention.

These empirical insights were synthesized with theoretical models, including Bronfenbrenner's ecological systems theory and Bandura's concept of self-efficacy, to ensure alignment between the study's goals and inquiry design. As a result, the interview guide was structured to capture the complex dynamics of familial involvement in language development, with open-ended questions designed to elicit rich and contextualized responses from participants.

Participants

Purposive sampling was used to include a diverse range of families with children using cochlear implants. The inclusion criteria were as follows: (1) parents of children aged 2 to 12 years who use cochlear implants, (2) children who had received their implants at least six months prior to the study, and (3) participants willing to share their experiences through interviews. Recruitment continued until data saturation was reached, resulting in a total of 18 participants.

Table 1 presents the participants' demographic characteristics.

Table 1 Participant Demographic Characteristics (N = 18)

Participant ID	Parent Gender	Parent Age (Years)	Education Level	Child Age (Years)	Age at Implantation (Years)	Duration Since Implantation
P1	Father	38	Bachelor's	7	3	4 years
P2	Mother	35	Diploma	5	2	3 years
P3	Mother	40	Master's	4	1.8	2 years
P4	Mother	32	Bachelor's	5	3	2 years
P5	Father	29	High school	8	4	4 years
P6	Mother	33	Bachelor's	6	2	4 years
P7	Father	42	Bachelor's	10	4	6 years
P8	Mother	30	Bachelor's	6	2	4 years
P9	Mother	28	High school	3	1.5	1.5 years
P10	Father	36	Bachelor's	3	1	2 years
P11	Mother	45	Master's	7	3	4 years
P12	Father	39	Bachelor's	5	2.5	3 years
P13	Mother	27	Bachelor's	3	1	2 years
P14	Father	37	Postgraduate	4	1.5	2.5 years

(Continued)

Table 1 (Continued).

Participant ID	Parent Gender	Parent Age (Years)	Education Level	Child Age (Years)	Age at Implantation (Years)	Duration Since Implantation
PI5	Mother	34	High school	9	5	4 years
PI6	Father	31	Bachelor's	8	3.2	5 years
PI7	Mother	29	Bachelor's	2	1	1 year
PI8	Father	41	Master's	12	4	7 years

Note: Ages and durations are reported as self-reported estimates provided by participants.

Data Collection

Semi-structured interviews were conducted either in person or through video conferencing, according to participants' preferences. Each interview lasted approximately 60 to 90 minutes and was audio-recorded with participants' consent. Semi-structured interviews were conducted in person or via video conferencing, based on participant preference. Each session lasted 60 to 90 minutes and was audio-recorded with consent.

This method was chosen for its ability to elicit in-depth, context-rich data while maintaining consistency across participants. It allows researchers to explore participants' lived experiences through open-ended questions, enabling both structure and flexibility.¹¹ This was particularly suitable for examining complex family dynamics, parental self-efficacy, and perceptions of professional services.

The interview guide ([Appendix A](#)) included questions on family support, confidence in language facilitation, early intervention experiences, and interactions with audiology and speech-language services. Probing was used to clarify and expand upon responses as needed.

Data Analysis

Interview recordings were transcribed verbatim and analyzed using thematic analysis, as described by Braun and Clarke.¹² The analysis followed these six phases:

Familiarization with Data

Researchers repeatedly read the transcripts, made notes, and developed a comprehensive understanding of the interview content.

Generating Initial Codes

Initial codes were systematically identified and applied across the dataset, focusing on features relevant to the research questions.

Searching for Themes

Codes were organized into potential themes, representing coherent and meaningful categories.

Reviewing Themes

Themes were reviewed and refined through comparison with coded data extracts and the entire dataset to ensure their accuracy and distinctiveness.

Defining and Naming Themes

Each theme was clearly defined and named to capture its essence. Detailed analyses were performed to clarify each theme's role in the rehabilitation process.

Producing the Report

The results of the thematic analysis were compiled into a coherent report. This report included illustrative examples and extracts that related the analysis to the research questions and existing literature.

Two researchers independently coded the transcripts and regularly discussed and refined the codes and themes. Discrepancies were resolved through discussion and consensus to ensure the reliability and validity of the analysis. NVivo software was used to manage the data and facilitate the coding process, ensuring a systematic approach to organizing and analyzing qualitative data.

Trustworthiness

Several strategies, based on Lincoln and Guba's¹³ qualitative research guidelines, were employed to ensure the trustworthiness of the study's findings. Credibility was reinforced through extensive data analysis, peer debriefing, and member checks. Participants received summaries of their interviews and were asked to review the accuracy of the researchers' interpretations. Transferability was achieved by providing detailed accounts of participants' experiences and the research context. Dependability was ensured by maintaining an audit trail of the research process, including decision-making and data analysis tasks. Finally, confirmability was supported by researchers' recognition of their own biases and assumptions, which they reflected on during the data analysis.

Results

Thematic analysis of the interviews with 18 parents of children with cochlear implants revealed four overarching themes:

- (1) Family support and engagement,
- (2) Parental self-efficacy and language strategies,
- (3) Perceptions of professional services, and
- (4) Impact of early intervention.

These themes collectively illuminate the multifaceted ways in which families facilitate, experience, and interpret their children's linguistic development following cochlear implantation. Each theme is discussed in relation to the corresponding interview questions and supported by illustrative quotations.

Theme 1: Family Support and Engagement

This theme addresses the first interview question, which explored how families supported their children's rehabilitation and language development after cochlear implantation. Parents consistently described their involvement as a continuous process that extended beyond formal therapy sessions into everyday life.

Parents emphasized that strong emotional support, cooperation among family members, and the establishment of consistent home routines played a pivotal role in their children's language progress. These behaviors included practicing speech activities learned in therapy, incorporating verbal interaction into playtime, and modeling spoken language during daily routines.

Every time we leave the speech session, I repeat what the therapist did with my son at home. I write down everything and practice it during our daily routine. (Mother of a 5-year-old, P2)

My older daughter helps a lot. She plays with him using the words we learn in therapy. I think that helps more than anything else. (Mother of a 3-year-old, P9)

Several participants emphasized the role of siblings in enhancing motivation and vocabulary acquisition. Sibling involvement often transformed rehabilitation into natural family communication rather than structured lessons. Conversely, families that experienced high stress, inconsistent participation, or limited spousal cooperation reported slower progress and increased frustration.

Overall, this theme highlights that language development occurs most effectively within a cohesive and supportive family environment. The findings underscore the importance of treating the family unit—not only the child—as an active agent in rehabilitation.

Theme 2: Parental Self-Efficacy and Language Strategies

The second theme corresponds to the second interview question, which examined how parents' confidence influenced their engagement in language development and the strategies they used at home. Many parents initially expressed uncertainty about their ability to communicate effectively with their child, especially in the early stages of rehabilitation. Over time, however, confidence increased as they observed progress, gained professional guidance, and learned from other parents' experiences.

At the beginning, I had no idea how to help. I was scared to do something wrong. But after a few sessions and watching other parents, I gained more confidence. (Mother of a 5-year-old, P4)

Now, I can plan my own activities. I feel more in control. (Father of a 7-year-old, P1)

Parents described developing individualized approaches that combined professional advice with family routines. Many integrated language learning into cooking, play, and storytelling, turning everyday moments into learning opportunities. Common strategies included repetition of key words, use of visual and tactile cues, singing, and conversational turn-taking.

I repeat key words when we cook together, like 'cut', 'stir', or 'plate'. He enjoys it and repeats after me. (Mother of a 6-year-old, P8)

Songs and nasheeds helped a lot. We sing during bath time and while dressing. It's fun and builds vocabulary. (Father of a 3-year-old, P10)

These strategies reflect a growing sense of competence among parents and reinforce the reciprocal nature of self-efficacy—success in communication strengthens confidence, which in turn motivates further engagement. This evolution of parental confidence represents a central driver of children's language development after cochlear implantation.

The present findings corroborate recent evidence linking family engagement and parental confidence with children's post-implantation language outcomes. For example, Ching et al¹⁴ demonstrated that consistent parental participation and early auditory intervention predict stronger receptive and expressive language growth, findings echoed in the experiences of parents in this study. Similarly, Holzinger et al¹ identified family environment quality as a decisive factor in auditory-verbal development, aligning with participants' emphasis on supportive home interactions. Moreover, Moradi et al³ found that parental self-efficacy mediates communication outcomes, reinforcing the patterns observed among Saudi families in this study. Collectively, these parallels underscore the cross-cultural significance of family engagement and confirm that parental empowerment remains central to successful language development after cochlear implantation.

Theme 3: Perceptions of Professional Services

The third theme is linked to the third interview question, which explored parents' experiences and satisfaction with audiology and speech-language therapy services. Participants' perceptions varied widely, shaped by accessibility, communication quality, and the responsiveness of professionals.

Parents who reported positive experiences frequently described their clinicians as collaborative and empathetic partners who valued parental input and offered clear, actionable guidance.

Our therapist involved us in every step. She explained everything clearly. That made us feel confident. (Mother of a 4-year-old, P3)

They listened to our concerns and adapted the sessions. I felt they respected our role as parents. (Father of a 6-year-old, P6)

In contrast, parents facing challenges cited inconsistent service availability, long waiting times, or limited follow-up as barriers to sustained engagement. For some families, distance from service centers or lack of coordination among providers created additional strain.

We had to travel far just to get an appointment. Sometimes, we'd wait months. (Mother of a 7-year-old, P11)

They didn't explain what I could do at home. I felt lost after the sessions. (Father of a 5-year-old, P12)

These accounts reveal that while professional expertise is essential, parental satisfaction depends equally on accessible, culturally responsive, and family-centered service delivery. The findings also highlight disparities between families from different socioeconomic backgrounds, suggesting a need for greater equity and coordination in post-implantation support systems.

Theme 4: Impact of Early Intervention

The fourth theme corresponds to the fourth interview question, which explored how the timing of diagnosis and intervention influenced parental confidence and children's language outcomes. Parents consistently perceived early intervention as foundational to success. Those who accessed services soon after diagnosis reported faster progress and stronger motivation to remain engaged.

We found out when she was nine months old and started therapy right away. That early start changed everything. (Mother of a 3-year-old, P13)

Because we started early, I learned how to help. It became part of our life. (Father of a 4-year-old, P14)

Families who experienced delays in implantation or speech therapy expressed frustration and regret, noting that lost time affected both their child's communication skills and their own confidence.

Even though we knew early, the implant was delayed, and therapy started much later. I always wonder how different things could've been if we began sooner. (Mother of an 8-year-old, P16)

Participants also emphasized that early identification must be matched with immediate and coordinated services. Screening alone was not sufficient without timely follow-up and professional guidance. This finding underscores the importance of system-level coordination and parent training to sustain engagement after diagnosis.

Summary of Novel Contributions

The findings reveal several unique insights that extend existing research on cochlear implantation. First, sibling participation emerged as a significant yet underexplored facilitator of language development, transforming rehabilitation into a collective family activity. Second, the results illustrate how parental self-efficacy evolves through interaction with professionals and other parents, suggesting a dynamic feedback loop between confidence and skill acquisition. Third, the data highlight systemic inequities in service access and continuity, offering an evidence base for policy-level improvements in family-centered rehabilitation in Saudi Arabia. Together, these findings emphasize that family support, timely intervention, and collaborative professional partnerships are indispensable for optimizing linguistic outcomes among children with cochlear implants.

Discussion

The findings of this study offer valuable insights into how families in Saudi Arabia support and interpret their children's language development following cochlear implantation. The results underscore the importance of family support, parental self-efficacy, professional services, and early intervention in shaping linguistic and rehabilitative outcomes. It is important to note that all findings reflect parents' perceptions of their children's communication progress rather than standardized or objective language assessments. These interpretations capture families' lived experiences and the meanings they assign to progress observed in daily life, reflecting the subjective and relational nature of family-centered rehabilitation.

Family Support and Engagement

Family support and engagement emerged as central components of children's rehabilitation. Parents consistently described the value of ongoing participation in therapy sessions and home-based practice as key facilitators of progress. These findings align with prior research emphasizing the role of family-centered intervention in enhancing outcomes for children with cochlear implants.^{15–17}

Participants in this study perceived their children's improvements as gradual and closely tied to the quality of everyday interaction, rather than as measurable test-based gains. Parents frequently attributed progress to consistency, emotional encouragement, and shared participation in speech activities. Notably, siblings were described as active contributors to language learning, functioning as peer models during informal play and conversation. This finding, while rarely addressed in earlier literature, highlights a novel dimension of familial influence that extends beyond parental involvement alone.

Parents who reported cooperative family dynamics described greater confidence and more frequent communication with their children. Conversely, families experiencing stress or inconsistent participation observed slower perceived progress. These insights reinforce that successful rehabilitation depends not only on clinical interventions but also on the emotional and structural stability of the home environment.

These findings are consistent with earlier research demonstrating that parental involvement and home-based language activities are critical determinants of post-implantation outcomes. Moeller¹⁵ found that early, consistent family participation predicted stronger speech and language development, while Sarant et al¹⁷ emphasized that frequent parent-child interactions accelerate auditory-verbal skills. The current results extend this evidence by revealing how Saudi families adapt these strategies within culturally specific routines, highlighting the role of sibling participation and extended-family engagement—dimensions less visible in Western studies.

Parental Self-Efficacy and Language Strategies

The second theme revealed that parents' confidence in their ability to support language development evolved over time. Initially, many expressed uncertainty and fear of hindering progress, but their self-efficacy strengthened as they observed their children's responses to interaction and as professionals provided guidance. This iterative process of learning and reflection aligns with Bandura's¹⁰ theory of self-efficacy, which posits that mastery experiences and social modeling enhance individuals' belief in their capabilities.

Parents described developing personalized strategies to embed language learning into daily routines, including repetition, turn-taking, storytelling, and the use of visual cues. These strategies were not prescribed or standardized but emerged through experiential learning and collaboration with professionals. Importantly, the perceived success of these strategies was subjective, grounded in parents' observations of behavioral change—such as improved eye contact, longer utterances, or increased social engagement—rather than quantifiable linguistic measures. This emphasizes that in family-centered rehabilitation, parental perception of progress is both an indicator and a motivator of continued engagement.

Perceptions of Professional Services

Parents' experiences with audiology and speech-language services significantly influenced their engagement and satisfaction with rehabilitation. Positive experiences were marked by clear communication, empathy, and the inclusion of parents in decision-making, consistent with prior evidence that collaborative family-professional partnerships improve intervention adherence.^{18,19}

Conversely, families who encountered fragmented services, long waiting periods, or insufficient follow-up expressed discouragement and uncertainty about how to maintain progress at home. Some participants reported that these systemic barriers limited their ability to sustain consistent practice, resulting in perceived slower improvement in their children's communication. Again, these impressions were based on families' lived experiences and subjective evaluations rather than clinical benchmarks.

The findings also revealed disparities in service accessibility between urban and rural families, suggesting that logistical and socioeconomic factors can influence how parents perceive and participate in rehabilitation. These insights highlight a need for equitable, accessible, and family-centered service systems that recognize cultural context and logistical constraints.

Impact of Early Intervention

Early diagnosis and timely intervention were consistently perceived as critical determinants of successful outcomes. Parents who accessed cochlear implantation and therapy soon after diagnosis expressed strong confidence in their children's communication potential and reported observable improvements within family interactions. These findings align with prior studies emphasizing the benefits of early intervention for language and socioemotional development.^{8,14}

However, several participants reported delays between diagnosis, surgery, and initiation of therapy, describing these interruptions as missed opportunities. They perceived these delays as affecting both the child's language trajectory and their own motivation as caregivers. Importantly, parents interpreted early intervention not only as an institutional process but as a family adaptation period, during which they learned how to communicate, use devices effectively, and restructure routines. This perspective extends current literature by framing early intervention as an evolving partnership between families and professionals, rather than a single procedural milestone.

The importance of early diagnosis and coordinated rehabilitation identified in this study aligns with global evidence on the long-term benefits of early cochlear implantation. Ching et al¹⁴ and Leigh et al²⁰ demonstrated that children implanted before three years of age achieve significantly higher language scores and better auditory outcomes. However, unlike these large-scale quantitative findings, the present qualitative data reveal the emotional and motivational aspects of parents' experiences with early intervention, emphasizing how timely support empowers families and sustains engagement throughout the rehabilitation journey.

Interpretation of Findings in Context

Taken together, these findings highlight the interdependence of family, individual, and systemic factors in children's post-implantation linguistic outcomes. The study's qualitative approach provides a culturally situated understanding of how families conceptualize and act upon their role in rehabilitation. The emphasis on subjective parental accounts offers insights into the social and emotional dimensions of language learning that may not be captured through standardized measures.

By situating the results within Bronfenbrenner's⁹ ecological systems theory, the study underscores that language development is influenced by dynamic interactions across microsystemic (family), mesosystemic (family-professional), and exosystemic (institutional) contexts. Similarly, consistent with Bandura's¹⁰ concept of reciprocal determinism, parents' growing confidence both shapes and is shaped by their children's perceived progress. These theoretical perspectives reinforce the importance of empowering families as collaborative agents rather than passive recipients of therapy.

Limitations and Implications

While this study provides valuable insights, it is essential to interpret the findings within the limits of self-reported data. Parents' perceptions, while rich and authentic, may not always align with standardized language outcomes. The intent of this research was not to quantify progress but to understand how families perceive and respond to their children's communication development. Future studies could triangulate parental perceptions with formal language assessments to explore how subjective and objective indicators converge or diverge.

Practically, the findings underscore the importance of designing rehabilitation programs that integrate parental coaching, sibling engagement, and culturally responsive support systems. Early intervention frameworks should include guidance for parents on using everyday interactions to promote language, thereby bridging clinical therapy with home environments. Policymakers should also address regional disparities in access to auditory and speech-language services to ensure equitable outcomes.

In summary, this study contributes a nuanced, culturally grounded understanding of how Saudi families perceive, experience, and support their children's language development after cochlear implantation. The findings demonstrate that progress in communication, as experienced by parents, is not defined by standardized metrics but by relational growth, improved interaction, and increased participation in family and community life. Recognizing and valuing these subjective perspectives can help professionals design more empathetic and effective family-centered intervention models.

Conclusion

This study explored how Saudi families perceive and support the language development of their children with cochlear implants. Through thematic analysis of parents' experiences, the research identified four interrelated domains—family support and engagement, parental self-efficacy and language strategies, perceptions of professional services, and early intervention—that collectively shape the linguistic trajectories of children with cochlear implants.

The conclusions drawn from this study align closely with its qualitative findings. Parents' narratives revealed that language development is best understood through their perceptions, daily observations, and family interactions rather than through standardized measures. Their experiences underscore that progress in communication is not defined solely by linguistic output but also by relational growth, mutual understanding, and confidence within the family unit.

The findings also emphasize the essential role of professional partnerships that are collaborative, culturally responsive, and accessible to all families regardless of socioeconomic status. Strengthening these partnerships, together with sustained family involvement and early, well-coordinated intervention, can improve both language and psychosocial outcomes for children with hearing loss.

Future research should extend these insights by examining how parental perceptions interact with objective language assessments over time and by exploring strategies to empower families as co-facilitators of children's rehabilitation. Collectively, these conclusions reinforce that family-centered, contextually sensitive approaches are fundamental to optimizing linguistic and developmental outcomes for children with cochlear implants.

Data Sharing Statement

Data supporting the findings of this study are available from the corresponding author upon reasonable request.

Ethics Approval and Informed Consent

This study was approved by the Standing Committee for Bioethics Research at Prince Sattam bin Abdulaziz University (Protocol No. SCBR-499/2025) and conducted in accordance with the principles of the Declaration of Helsinki.

Consent for Publication

Participants provided informed consent for publication of anonymized quotations.

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Author Contributions

The author affirms having made a substantial and direct contribution to all aspects of the work, including the conception and design of the study, data collection, analysis, and interpretation. The author was responsible for drafting and critically revising the manuscript, approved the final version for publication, agreed to submit the work to the Journal of Multidisciplinary Healthcare, and accepts full accountability for all aspects of the research.

Faisal Alqraini is the sole author of this manuscript. He conceptualized the study, conducted the research, performed the data analysis, and drafted the manuscript.

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Disclosure

The author declares no competing interests.

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