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Readiness of Parents in Deaf Children's Language Learning: A Qualitative Study

Shahrul Nizam Zaini[1], Khairul Farhah Khairuddin[1,2]

[1]Faculty of Education, Universiti Kebangsaan Malaysia, [2]HEARS Centre, Faculty of Health Science, Universiti Kebangsaan Malaysia

Corresponding Author Email: kfk@ukm.edu.my

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Abstract

Parents' role in helping deaf children's language learning through listening and speaking skills is a family-centred effort. It is used as one of the decisive strategies to achieve the objective of using cochlear implants. This study focuses on parents' role from the aspect of their involvement in the success of language learning for deaf children who wear cochlear implants. This study was conducted to explore the involvement of parents in helping the language learning of children who have hearing problems and use cochlear implants. A qualitative approach was chosen using a case study design. A total of three pairs of parents were selected to be interviewed. The responses and sharing given by the respondents were analysed descriptively. Descriptive analysis in the study was done using ATLAS.ti version 9 software and has found several themes that play an important role in giving implications to the language learning of deaf children who wear cochlear implants. The findings of the study show that the consistent and meaningful role of parents throughout the rehabilitation period has an impact on the mastery of listening and speaking skills and subsequently improves the learning and language mastery of deaf children who wear cochlear implants. In conclusion, the role taken and played by parents has implications for the language learning of deaf children who wear cochlear implants. Full parental support can help deaf children who wear hearing aids to live like their hearing peers.

Keywords: Cochlear Implants, Deaf Children, Pupils with Special Educational Needs, Language Learning, Listening and Speaking Skills

Introduction

Deaf children are those with a hearing disability that may affect their learning. The normal hearing level for a typical individual is 20 dB and below. For individuals who are categorized as persons with disabilities in Malaysia (locally known as 'Orang Kurang Upaya' – OKU), they are divided into four categories based on their hearing level, namely mild (21–40 dB), moderate (41–70 dB), severe (71–90 dB) and profoundly deaf (91 dB and above) (Pusat-HEARS, 2022). The hearing loss causes children to face difficulties in understanding other people's language and speech. Speech and language development is also disrupted or delayed which causes language proficiency to be very poor compared to their peers (Khasawneh, 2021). The delay in the language development of these children will also cause a delay in their

cognitive development. Without appropriate hearing amplification, these children are unable to develop spoken language and cognitive skills (Dewi et al., 2019). The impact of this delay further affects the learning process as well as academic achievement.

Hearing loss can be supported with appropriate hearing amplification devices. A hearing aid is an electronic device that works to help amplify sound (Picou, 2020). The use of this hearing aid is suitable to help the hearing of individuals with mild to moderate hearing problems (Pusat-HEARS, 2022a; Shukor et al., 2021). However, there are certain limitations, especially the effects of noise or background noise. Noisy environment may interfere good hearing reception. This situation causes users to feel that they receive little or no benefit from wearing these hearing aids (Shukor et al., 2021).

Nevertheless, the development of these hearing aids is progressive. A cochlear implant is a sophisticated and tech high-tech device capable of providing excellent hearing (Pusat-HEARS, 2022b). Many users of this device show a high level of satisfaction because they get full benefits from the use of cochlear implants (Urík et al., 2022). The excellent hearing effect from the use of the cochlear implant also has a positive impact on the development and advancement of listening and speaking skills, which, in turn, enables deaf children to learn language skills. Further development of language skills has a positive impact increasing their development of cognitive level.

The success of deaf children with cochlear implants in regaining hearing, speaking and learning language depends on many factors. These factors include the usage of cochlear implants during the children's early age. Studies proved that the use of cochlear implants by children less than 24 months old results in good language development. This situation clearly shows that the early use of cochlear implants gives results in good speech and language achievement (Lu & Qin, 2018; Abdullah et al., 2022; Novialassafitri, 2020).

At the same time, the involvement of parents in the rehabilitation process after the use of a cochlear implant is also a factor for the success of the objective to enable these deaf children to learn languages. Cochlear implant supports individuals with hearing problems regain hearing, speech and language to, in turn, lead their lives as well as their peers. Parental involvement in the rehabilitation process proved to be very important in achieving the objective of using cochlear implants (Purbaningrum and Rofiah, 2018). The use of cochlear implants at an early age alone does not guarantee the child's immediate effect in listening and speaking is being achieved (Lally et al., 2019). Consistent involvement in rehabilitation to develop listening and speaking skills is very important. Therefore, these factors are mutually beneficial in the language learning of deaf children.

Involvement of parents in the rehabilitation process, is a reason for the development of good listening, speaking and language learning skills (Boon et al., 2013). An early intervention programme that involves parental intervention as a supporter of the process of developing the listening and speaking skills in children who wear cochlear implants is a determining factor in the success of these children in learning and mastering language acquisition and living a life like their peers (Holzinger et al., 2020). Sufficient family-centred interaction between parents and children who wear cochlear implants encourages the child's active participation in the conversation. This situation supports the rehabilitation process in a better and more efficient direction. The role of parents in helping the rehabilitation process of deaf children who wear cochlear implants to learn spoken language is needed.

Literature Research

The National Cochlear Implant Programme in Malaysia was first introduced in 1995 and was pioneered by the National University of Malaysia (UKM). Starting in 2008, this programme was first introduced in the hospitals of the Ministry of Health Malaysia (KKM), which have the status of satellite hospitals. Until 2021, data from the Ministry of Health Malaysia (2022) has recorded the number of patients who underwent cochlear implant surgery to be 537 people and more (adults and children).

The use of cochlear implants is one of the good alternatives for helping individuals with hearing problems to hear and speak. This is because the cochlear implant is a high-tech electronic device that is better than a hearing aid Castiglione et al (2015) because of the benefits that users receive in total (Pusat-HEARS, 2022). Since this device provides many benefits to its users, a number of studies have been done by the manufacturers of this tech high-tech device to produce a cochlear implant that has new features and is able to overcome the weaknesses or shortcomings of previous devices.

The latest processing feature found on the cochlear implant, which is very helpful in providing a good effect in signal processing to listen and improve hearing focus, is the SONNET 2 audio processing, released by the MED-EL company which introduces the Ambient Noise Reduction (ANR), Transient-noise Reduction (TNR), and also comes with an Adaptive Intelligence (AI) technology. This processing feature is proven to provide full benefits in cochlear implants to help users hear well and improve their listening focus despite being in an environment that has background noise (Kurz et al., 2022). In addition, the introduction of new features such as directional microphones and background noise reduction algorithm pre-processing available on this cochlear implant has further improved the progress of this device, which in turn provides full benefits to the users (Carlyon & Goehring, 2021). The invention of the cochlear implant made it the most successful hearing aid in the world when it was proven to restore the hearing ability of more than 800,000 deaf individuals who underwent implantation by providing better hearing perception and mastery of speaking and language skills to the majority of those who wore it (Boisvert et al., 2020). With the use of this tech high-tech tool that has sophisticated, efficient and user-friendly features, by individuals or children with hearing problems, they can build and develop language learning skills.

Listening skills are skills that involve a person's observation of a sound through several aspects, namely the way they discriminate, receive, relate, remember, complete and integrate the sounds they hear (Mohamad & Ramli, 2015). For students with Special Educational Needs hearing, their inability to hear causes them unable to discriminate, accept, relate, remember, complete and combine the sounds they hear. Therefore, this situation further affects their speaking skills. The human ability to speak occurs in stages (Rahim, 2020; Rodzi & Jaafar, 2018). The age of one to five years is a critical period for children to learn to speak and acquire their language Wong et al (2013) and this includes the mastery of the phonological system (Mahmood, 2007; Rodzi & Jaafar, 2018). According to Rahman and Amin (2012), speaking skills refer to skills that involve several aspects such as pronunciation, stress, mora (long-short), pauses, intonation, tone, grammar, articulation, fluency and language adjustment. Good speaking skills by a person is when they coordinate their listening ability to obtain information, produce language sounds by using the elements of speech as stated and carry out the mental process of building understanding. Successfully managing the process of listening, understanding and responding with effective speech will produce an effective form of daily communication.

A term long-term study of paediatric cases that underwent cochlear implants at the National University of Malaysia (UKM) showed that more than half of children who maintained the use of cochlear implants (97.6%), were found to be able to communicate verbally (69.8%) and 58.5 percent of the children were registered in the mainstream education system (Goh et al., 2018). The results of this study show that UKM's Cochlear Implant Programme has achieved commendable success for paediatric cases that received cochlear implants at less than 4 years of age. Nevertheless, the validity of the success percentage is still doubtful because there is no finding that explains the supporting factors to the data, such as parental intervention in a meaningful and consistent rehabilitation process that helps them hear and speak after undergoing cochlear implant surgery. The readiness level of cochlear implant students in year 1 of mainstream education is still much lower compared to normal-hearing students (Umat et al., 2018). This study found that the late use of cochlear implants and the lack of meaningful and consistent interaction between children and their parents contributed to the low level of readiness of cochlear implant students to year 1 of mainstream education. This study clearly shows the factors of early use of cochlear implants and the meaningful and consistent interaction of children with their parents are two factors that contribute to the listening and speaking skills of deaf children who wear cochlear implants in learning the language.

This is also supported by findings from past studies that prove that the early use of cochlear implants and parental intervention in the rehabilitation process has helped the development of listening and speaking skills in deaf children who wear cochlear implants (Diaz et al., 2019; Lu & Qin, 2018; Yoshinaga-Itano et al., 2018). The same findings of a recent study in the country were reported by Abdullah et al (2022), who also found that a group of successful research subjects, which were nine children in the test conducted, had listening and speaking skills that were equivalent or better than normal hearing children of their age due to the factor of early use of cochlear implants by the child. That study also found that seven out of nine children from the successful group were late recipients of cochlear implants, after the age of 24 months. The findings are linked to the factor of parental involvement in the rehabilitation process after the use of cochlear implants which has supported the development of listening and speaking skills of deaf children who wear cochlear implants because early support for them is a critical effort that can have an impact on development of listening and speaking skills (Khairuddin et al., 2018).

This is in line with Purbaningrum and Rofiah's (2018) study that the use of cochlear implants at an early age alone does not guarantee the child's achievement of continuing to hear and speak; on the contrary, consistent involvement in the rehabilitation to develop listening and speaking skills is very important. The environmental factor, which is the involvement of parents in the rehabilitation process, is a reason for the development of good listening, speaking and language skills (Boons et al., 2013). An early intervention programme involving parental intervention as a supporter of the process of developing listening and speaking skills in children who wear cochlear implants is a determining factor in the success of these children in terms of hearing, speaking, language and living life like their peers (Holzinger et al., 2020). This is because a truly family-centred interaction between parents and children who wear cochlear implants stimulates the child's active participation in the conversation. Therefore, this situation supported the rehabilitation process in an effective direction (Khairuddin et al., 2018). Taking early steps and consistent parental intervention in the rehabilitation process will develop the listening and speaking skills of deaf children who wear cochlear implants (Khairuddin & Miles 2020).

Based on the literature review, it is known that the factors in helping deaf children who wear cochlear implants to listen and speak many languages have been stated by studies carried out by researchers from abroad and in Malaysia. The involvement of parents in trying to develop the children's listening and speaking skills is a very critical effort that should be implemented because it greatly impacts the language skills of these children. Therefore, the study of the role of parents in the language learning of deaf children will help parents know which of their roles will help in that direction.

Methodology

This study is a case study that involved three participants who are parents of deaf children who wear cochlear implants. The purpose of this study is to explore the role of parents who have an impact on deaf children who wear cochlear implants in learning language. Therefore, this study uses a qualitative method that uses a triangulation approach involving interviews, unstructured observations and document analysis to obtain deeper and stronger data (Renz et al., 2018). The interviews carried out in this study are semi-structured with three couples who are parents of deaf children who wear cochlear implants, aged around 13 to 17 years and attend mainstream schools. The main question and protocol of the interview session have been prepared to obtain specific responses, and then the researcher will ask independent questions based on the responses received to explore deeply the information received (Ang, 2016). The data received is then administered by the researcher by producing a complete verbatim transcription for the analysis process. The method of unstructured observation and document analysis used in this study is to use field notes where the researcher observes the documents brought by the study participants, and then the researcher forms a perspective or understanding that is built deductively and inductively in the field notes (Jasmi, 2012; Ednin, 2012). Each study participant involved in this study is known by a pseudonym to protect the confidentiality of the study participants. The data analysis carried out in this study is a thematic method that uses the Computer-Aided Qualitative Data Analysis Software (CAQDAS) ATLAS.ti (Friese et al., 2018). The study has found several recurring themes that play an impact on parents' role in helping deaf children who wear cochlear implants learn language.

Findings

The table below shows the demographic profile data for the selected study participants, consisting of three participants aged 30–50 who have deaf children who wear cochlear implants. Two study participants have bachelor's degrees in different fields, namely, a Bachelor's Degree in Speech Science and a Bachelor's Degree in Business. Meanwhile, another participant has a Master's Degree in Pharmacy. From an employment point of view, Puan Zalina used to work as a Pharmacy Officer and has now stopped. Puan Junaidah is still working as a Speech Therapist and Puan Syazlena is unemployed.

All three study participants have deaf children who wear cochlear implants monaurally. For the study participant Puan Zalina, her child was implanted at 2 years and 6 months old and is now 13 years old. Puan Junaidah's child was implanted at 2 years old and is now 15 years old. Puan Syazlena's child underwent cochlear implant surgery at 3 years and 4 months old and is now 16 years old.

Table 1
Demographic Profile of Study Participants

DEMOGRAPHIC PROFILE	PUAN ZALINA	PUAN JUNAIDAH	PUAN SYAZLENA
Age	38 years	46 years	39 years
Parents' education level	Master of Pharmacy	Bachelor of Speech Science	Bachelor's Degree in Business
Parents' occupation	Pharmacist	Speech Therapist	Unemployed
Age of the child when implanted	2 years 6 months	2 years	3 years 4 months
Hearing aid used	Cochlear implant (monaural)	Cochlear implant (monaural)	Cochlear implant (monaural)
Age of child (current)	13 years	15 years	16 years
Child's school	National Religious High School (Mainstream)	National Daily High School (mainstream)	National Daily High School (mainstream)

The three children of the study participants also attended mainstream education learning sessions. Based on interviews conducted with three study participants, it has been found that 10 themes play an important role in contributing to learning and language acquisition through the development of listening and speaking skills of deaf children who wear cochlear implants throughout their rehabilitation period.

Knowledge Sustainability

The success of hearing and speaking skills of deaf children who wear cochlear implants starts from receiving continuous knowledge from parents. Although two out of the three research respondents involved did not know what they should do after finding out their child was born with hearing problems, by seeking advice and information from professionals such as physicians, ear, nose and throat specialists, speech therapists and audiologists, a solid and continuous understanding was instilled in the parents. The parents also showed a proactive attitude in ensuring that they have solid knowledge in ensuring that their children can undergo effective rehabilitation sessions. This finding is based on answers from respondents who said:

> *"…the success of CI operation is just the first step. The success is determined by its' rehab programme. Focus on its' rehab, and therapy. That's a critical factor to make CI intervention a success." Puan Zalina*
> *"The speech therapist teaches us, not the children. We are the ones who have to learn... it's for us parents, not for the children..." Puan Syazlena*
> *"...I studied again... I rejoined the course, and relearned how to do therapy for the children with implants... when a lecturer came to do a short course on hearing loss, I joined once. So that I can refresh my knowledge about how we can learn how to help the child..." Puan Junaidah*

Based on an interview with Puan Zalina, she found that continuous and solid knowledge has built her understanding that the rehabilitation of children who wear cochlear implants is the key to success in their listening and speaking abilities after undergoing implantation which,

in turn, affects their language learning. Puan Zalina also realizes that without a critical rehabilitation process, these children's learning will not be successful.

Puan Syazlena also showed an attitude of precise understanding. The interview found that Puan Syazlena applied all the knowledge and skills gained from the speech therapy sessions she attended at the hospital as a form of learning for herself to conduct effective rehabilitation sessions over a longer period together with her child at home.

Puan Junaidah showed a proactive attitude in gaining and building sustainable knowledge. The study found that Puan Junaidah willingly participated in short classes held by any party and in public universities to learn more advanced and up-to-date methods. The study also shows that Puan Syazlena's efforts are to help the rehabilitation process of her child who has used a cochlear implant progress more effectively in his efforts to learn the language.

Overall, this study found that the sustainability of the knowledge worked on and built by parents has had an impact on the development of listening and speaking skills of deaf children when the parents realize that the rehabilitation process is a very critical process and will determine whether the implantation surgery in the early stage successfully achieves the objective of its use by enabling these children the ability to speak (Shauli & Baram-Tsabari, 2019). Therefore, the theme of sustainability of knowledge can be seen from the efforts of parents who are proactive in obtaining knowledge as well as following all the correct steps and methods as taught by the group of experts in conducting rehabilitation sessions with children.

Meaningful and Consistent Engagement

Without the full involvement of parents, critical rehabilitation in developing the listening and speaking skills of children who have undergone the implantation will not occur. The results of the interviews unravel the effectiveness of meaningful and consistent parental involvement, which is one of the roles that contribute to the success of language learning of deaf children. This matter is acknowledged by all the respondents of the study that this role has great implications for the learning of language for children who have hearing problems and wear cochlear implants. One of the respondents also expressed her awareness of the impact of this consistent and meaningful involvement on the success of these children in learning language through the development of listening and speaking skills when she found that there was a decrease in language development when she began working again. In addition, one of the respondents also shortened her working hours to dedicate more consistent time to the rehabilitation process with her son:

> *"I took half paid leave and focused on my child's therapy... I saw a lot of changes... my child could speak up to 50 to 100 words in six months... after going back to work, I saw a decrease in my child's progress... we think it's important to have a parent at home... because therapy is not just going to the hospital for therapy..." Puan Zalina*
> *"...I cut down on my working hours. So that we can spend more time on our child...on therapy..." Puan Junaidah*

This interview shows that consistent and meaningful parental involvement is one of the roles recognized to be effective in the children's development of listening and speaking skills. This shows that parents are the closest and most influential impacts on deaf children who have undergone implantation to learn language (Khairuddin et al., 2018). Consistent involvement of parents throughout the children's rehabilitation session will result in a meaningful interaction, which is an interaction that can develop listening and speaking skills, that is the

language learning process of these children and further motivate deaf children who wear cochlear implants to listen and speak well until they can communicate smoothly.

Intervention in Education

Intervention in education is seen from the aspect of parents in carrying out activities and steps towards their deaf children to learn language. Interviews with respondents found that all respondents were involved in educational activities in the form of interventions for children to learn the language. Methods such as voicing actions by involving children in daily activities have been found to help teach listening and speaking skills, in addition to the implementation of hands-on and indirect learning activities. This can be seen as the answer given by the respondents:

> *"...at home we will vocalize our every action... every action, everything, we will always vocalize it... we open the door, open the door... open the window... close the window." Puan Zalina*

> *"…for example to teach my child shapes, square, round ...use bread, take a round shape ...buy square biscuits, round ones…teach my child whilst eating...take a round biscuit...indirectly it teaches my child..." Puan Syazlena*

Overall, all study respondents were found to work together with their children to ensure that their children can master language learning through various educational interventions. At the same time, the study also found that creativity by all the study respondents in conducting listening and speaking skills learning activities has also stimulated the interest of these children to participate in the activities carried out by their parents.

Persistence of Spirit

The interview also found that respondents faced problems in carrying out the rehabilitation process with their children. The difficulty factor in ensuring that children wear the aids consistently and getting a place for these children in the mainstream programme was unravelled when the study found that two out of three study respondents experienced moments of difficulty in wanting to start the initial steps and the next steps in carrying out and supporting the rehabilitation process. One respondent faced difficulties in getting a place for her child in the mainstream class. However, the study found that all respondents showed perseverance and continued to work hard to deal with the problem. This can be seen in the answers given in the interviews conducted:

> *"...when we put it on, it's challenging. I put it on, he threw it away, I put it back, he threw the aid under the sofa, under the cupboard... but I also went under the sofa, put it back on for him." Puan Syazlena*

> *"The child's issue is the rejection of the thing. They don't like to use implants... many parents lose their battles there. It means that this child has to be forced to get it." Puan Junaidah*

> *"...we approached a kindergarten... when they knew my child was disabled, they all didn't want... we felt discouraged at that time... When my child was 5 years old, we tried again. I changed tactics. I went to see the manager of the kindergarten, I*

brought my child first, I didn't even tell them that my child was disabled, I let my child see and play first, and asked if it was ok to enter. After that, I just told them that my child is disabled and deaf and uses an implant. After that, the manager gave in." Puan Zalina

Based on the statement, the first and second respondents found it difficult for their child to use the implants consistently. However, both respondents realized that they could not give in to their child's stubbornness and refusal of the cochlear implant device because they realized that it would defeat the achievement of the objective of using their child's cochlear implant.

The third respondent found that the disability experienced by her child became a factor of difficulty for her to place her child in school and blend in with typical students in a mainstream school, where applications and appeals for admission are often rejected. Although the respondent felt less motivated after failing in her appeal, it was found that the respondent continued to try by choosing a different approach. This shows that the third respondent did not give up hope on getting a place that she believed was the right place for her child to be, to help further develop her child's language learning skills.

Overall, this study found that the theme of parents' perseverance in ensuring the consistent use of aids and getting opportunities for children who wear cochlear implants is given their rightful place from the educational aspect, which is in the mainstream, is a role that further supports the children's language learning skills by deaf children who wear cochlear implants (Gagnon et al., 2020).

Advocacy

The study found that all respondents have an advocate in defending their children's rights as individuals who also deserve to have equal access, especially in education through various means and situations. The use of an aid by an individual certainly gives a poor perspective to someone who sees it. This is one of the issues that the three study respondents often experience when they have to deal with various situations that require them to educate the public and defend the rights of their children through various ways and methods. This finding is based on the answers given by the respondents who said:

"...we made a video about our child having CI, how this CI functions, about our child having a microphone. Share with the teacher so that he understands. So, think about it, a bit of education... during elementary school... ask for a slot from the teacher, give a speech during the morning assembly, make a script for our child to read the script... and this is one of our advocacy methods to educate the children and the school..." Puan Zalina

"...people look, what is that thing, so I will say... she wears a cochlear implant. I explain... she is deaf but she uses this device so she can hear... so we teach her to advocate for herself." Puan Junaidah

This study reveals that the advocacy role played by parents in defending what is needed for these children is indeed one of the roles that can further increase the motivation of children who wear cochlear implants to deal with typical society. When these children receive advocacy support from their parents directly, their self-confidence to stand up for themselves and get along with the typical society also increases. This will help further improve the development

of language learning through listening and speaking skills when they do not feel shy to mix and interact with the community. Thus, the role of advocacy has had an impact on deaf children who wear cochlear implants to continue developing language skills.

Concern for Needs

Deaf children have several needs that help them gain the same benefits as other typical children in that they get the most out of cochlear implants. Therefore, this study found that the consideration given to the needs of these children highlighted by the three respondents of the study has made it possible for these children to get what they deserve, especially when these children are learning at school. With the little assistance given to these children, the development of their language learning can be sharpened and developed as can be seen in the answers given by the respondents during the following interviews;

> *"We talked to the teacher, my child has a hearing problem, so if you can teacher... don't sit my child too far back. Put my child a little in front so that my child can hear a little better. So teacher, please let's put my child a little in front. That's all the help we ask for." Puan Junaidah*

This interview shows that the study respondents only need a little help from the teacher to ensure that their child who wears a cochlear implant gets a good level of hearing while following the learning session. This is because hearing is important for children's optimal development in learning (Hall et al., 2019). Therefore, the study found that the role of concern highlighted by all the study respondents towards the needs of their children was found to help the development of language learning in children who wear cochlear implants.

Realistic Expectations

To ensure that the rehabilitation of children who wear cochlear implants goes well and in line with their appropriate level, the role of realistic parental expectations is also found to be a role that contribute to the language learning of children who wear cochlear implants. Realistic expectations mean that parents set an expectation that is appropriate to the abilities exhibited by the child. The mastery of 3M skills (reading, writing, counting) is one of the basic skills that every student should master at the beginning of schooling (Samsudin et al., 2017). The findings of the study show that all three respondents have set expectations for their children to be in mainstream classes and know the consequences if these children are placed in special education classes.

This is because these children have managed to master 3M skills well and their parents are convinced that placing them in the mainstream class is the right choice as the following respondent answers;

> *"...I think it's true, thank God, it was the right choice to put my child in a regular kindergarten... because using CI is so that my child can be almost normal and can enter the mainstream..." Puan Zalina*

> *"It's really helpful... my child will learn to talk a lot more. My child is getting better at telling stories. Better at chatting... looks like my child has developed socially." Puan Junaidah*

> *"If my child goes to a special school, I am afraid that my child will sign because my child already has words, it'll be a waste... When my child is taught to sign, my child is comfortable with signing, and my child will no longer want to speak." Puan Syazlena*

The interview answers clearly show that appropriate and realistic parental expectations for deaf children who wear cochlear implants in choosing a learning environment that further supports their listening and speaking skills (language learning) have helped these children to be in a social sphere that has allowed them to socialize. The study also found that this parental expectation is a form of role that has an impact in further increasing the motivation and confidence of deaf children to be in a community group and further improve language skills.

Continuous Cooperation

Developing the language skills of deaf children requires a commitment of continuous cooperation from various parties. The results of the interviews also unravelled the implications of the role of continuous collaboration between the study respondents, the clinical team, teachers and other parents. Although two out of three respondents did not know extensively about the rehabilitation process of children who wear cochlear implants, the study found that the two respondents have established continuous cooperation with their respective clinical teams by following and obeying every instruction and monitoring the progress to carry out efficient rehabilitation. This finding is based on the answers given by the respondents who said;

> *"ST said don't do this... it takes a long time to do this... Every night I write down in the book how to say it. I mark what my child says. If it's a squirrel (tupai), he says tudai... The number of times my child repeats before getting it... To give it to the ST later so that the ST knows what level my child is at and what step to move to..." Puan Syazlena*

> *"... his progression, we work together with ST on his progression... maybe at the age of five or six he already has complex sentences... at the age of 6... we met the head teacher... we get support from the teachers... time cochlea asked us to make the video at the school, I messaged the parents... if anyone is free... on Saturday... turns out the whole class came wearing normal school uniforms. So you can see the support there... it's like a team. The audiologist ENT ST OT teachers and we received feedback from other parents. So with this one ecosystem that might be a bit extreme." Puan Zalina*

Based on the interview, the respondent Puan Syazlena gave a good commitment to cooperate by making a written record of her child's development to be given to the clinical team so that she would know the next steps to be taken to improve her child's language learning development based on the advice of clinical experts.

The respondent Puan Zalina admitted that the collaboration carried out with the clinical team, other parents and teachers has created an environment that has an impact on her child and helps him further develop language learning skills. Overall, the formation of a continuous collaboration team has become a support ecosystem that supports the meaningful

and sustainable rehabilitation process for children who wear cochlear implants in developing listening and speaking skills (language learning).

Sustainable Rehabilitation

The development of listening and speaking skills of deaf children who wear cochlear implants involves a sustainable rehabilitation process. This is because, for the development of listening and speaking skills in children with hearing problems, these children have a delayed hearing age and need a form of rehabilitation that is impactful and effective over a long period. The findings of the study show that all three respondents carried out rehabilitation efforts for their children with full dedication to ensure that the hearing age gap that is not in line with the actual age of these children can be brought closer together. This is to prevent other skills, such as cognitive, emotional and social skills, from being affected. The forms of activities and rehabilitation measures that are sustainable can be seen in the following interview answers;

> *"...have to chase after the same age and hearing age as my child's other friends. So that time we had to push a little bit further... it took time." Puan Zalina*
> *"...like to teach all the phrases, I wrote them all. Okay, this group of vehicles... trucks cars buses. So when we ask what the group of vehicles is... my child knows what's there..." Puan Syazlena*
> *"... we do therapy for my child to recognize and learn to listen more accurately. So we make the sound my child hears and then show the picture we made..." Puan Junaidah*

Respondent Puan Zalina stated that rehabilitation implementation efforts take a long time, and it is important to rebalance the hearing age with the actual age of these children. Puan Syazlena and Puan Junaidah implemented various activities and measures that had an impact and were sustainable throughout the rehabilitation process for their children. The interviews conducted found that the implementation of sustainable rehabilitation plays a role in determining the success of cochlear implant use immediately after implantation. Overall, the study proves that cochlear implant surgery is the first step, and what determines the success of implantation is the rehabilitation process. The influence of this factor made all the study respondents diligent in carrying out a sustainable rehabilitation process for their children to ensure their success in language learning.

Holistic Preparation

The study also found that all the study respondents acknowledged that these deaf children have the same right to get the same education as typical students. Therefore, all the respondents of the study have targeted their children's admission to the Inclusive Education Programme by making comprehensive preparations for their children in terms of basic mastery of 3M, the application of the value of full self-responsibility for the care of aids, and training in obtaining some specific accommodations for themselves throughout their time at school. This can be seen in the answers of two respondents during the interview:

> *"...I enrolled my child in this mainstream school, I am trying to get my child a place... because this is my child's right, because my child is smart, can read and write all that..." Puan Syazlena*
> *"my child has been trained to hold the FM and give it to the teacher... when the*

teacher comes in... teacher, please use it, yes, I want to listen. When the teacher wants to leave, ask the teacher to return the fm. I keep it..” Puan Junaidah

Overall, the findings of the study show that comprehensive preparation for deaf children who wear cochlear implants is a role that is demanded of parents in ensuring that these children get cooperation from teachers at school. If these children with hearing problems can be well prepared by their parents, then issues such as teachers not wanting to cooperate in learning at school will not occur. On the other hand, these hearing Children with Special Needs get full cooperation and support from the teachers at school and, at the same time, help improve their language learning skills.

Discussion

Children who are deaf and wear cochlear implants should be able to hear and speak orally. Children who are implanted early are found to have a high potential for success in being able to listen and speak or learn language (Nicastri et al., 2021; Abdullah et al., 2022; Novialassafitri, 2020). Nevertheless, if the recipient of this initial implantation does not follow a committed rehabilitation session, delay or failure to develop their language learning skills through listening and speaking skills is still at risk of happening (Umat et al., 2018; Samsudin et al., 2017). Therefore, early implantation alone is not the only factor seen to enable these children to continue to be able to hear and speak. The rehabilitation implementation factor is the catalyst for success. Therefore, parents should perform roles that can have an impact on the language learning of deaf children who wear cochlear implants so that they can fully benefit from the use of cochlear implants and achieve the objectives of implantation.

The building of continuous and solid knowledge by parents is a parenting science role at the initial stage that every parent should do to raise children, including those who have deaf children (Opoku et al., 2022). When receiving the results of the child's diagnosis, this may be the first exposure for the parents to the world of hearing problems and also to find a solution.

Therefore, the role of parents, which is to build a sustainable understanding, should be played at this early stage by getting the right information and building a strong understanding in oneself of the desired good implications (these children can listen and speak) and bad implications which should be avoided (Shauli & Baram-Tsabari, 2019). Efforts to build sustainable knowledge by finding and obtaining information about the care of deaf children can take into account various forms, such as scientific knowledge, audiological knowledge, medical knowledge and technological knowledge. Examples include ear structure, hearing mechanism, children's language development, rehabilitation methods, critical period, hearing aids and forms of intervention. This is because the success of each child depends on the level of knowledge of the parents in honing, educating and highlighting the talent and potential that each child has, including deaf children (Most et al., 2012).

So, the study shows that parental knowledge plays an important role in determining the success of cochlear implant use. If parents do not understand everything that is needed by their deaf child, then the commitment to developing the language skills of the deaf child will occur with less dedication (Nelson et al., 2012). Then, this will cause failure to achieve the objective of using cochlear implants. However, this study has proven that all the study respondents understand precisely the need to help their deaf children with full commitment and dedication, as all the study respondents' children successfully achieved an encouraging level of listening and speaking skills and acquired good language as well as being fluent in communication.

After the formation of sustainable knowledge is built by parents, all forms of guesses and challenges that will be expected can be overcome with a steadfast soul. This is because the main issue in the beginning stages of children who wear cochlear implants is from the point of view of the consistency of using the device (Wiseman & Warner-Czyz, 2018). This is because the successful language learning of deaf children who wear cochlear implants in the early stages requires the consistent use of hearing aids at all times. With the consistent use of tools, the development of the children's listening and speaking skills can be developed smoothly (Gagnon et al., 2020). Therefore, the challenges faced by parents in their children's language learning such as the child's refusal to wear hearing aids consistently is one of the obstacles and challenges that parents will go through.

Therefore, the role of parents in such a situation should be to strengthen their resolve by not giving in to the child's refusal to use the device throughout the waking period of at least eight to 10 hours a day (Walker et al., 2015). Otherwise, the risk of not achieving the objective of cochlear implantation is high and this is something that should be avoided. So, this study discovered that the role of parents' mental fortitude had implications for the language learning of deaf children who wear cochlear implants. This can be seen in the children of all respondents who are now able to communicate like their normal peers.

The findings of the study also show that the higher the involvement of parents with children, the higher the achievement of mastery of listening and speaking skills. Parents who have decided to quit work or shorten their working hours can focus more on getting involved in the rehabilitation of their children. The factor of full parental involvement in this rehabilitation process was found to have influenced and supported the language learning of deaf children (Diaz et al., 2019; Lu & Qin, 2018; Yoshinaga-Itano et al., 2018). The findings of this study have also shown that consistent parent-child-centred interaction has stimulated these children to be more active in their rehabilitation (Khairuddin et al., 2018).

The involvement of parents in the rehabilitation of deaf children will create a conducive environment that is a catalyst for the development of good listening, speaking and language skills of deaf children (Boons et al., 2013). Therefore, the role of meaningful and consistent involvement of parents that is discussed in the findings section of the study is found to have implications for the development and language learning of deaf children.

The study also shows the form of rehabilitation intervention activities carried out in a meaningful way has enabled the development of listening and speaking skills of deaf children in language learning. The implementation of therapy activities throughout the rehabilitation period by involving these children in daily routines, voicing the form of actions or music-based activities, as well as the implementation of hands-on activities among others, shows a meaningful form of intervention that is impactful and effective in language learning (Torppa & Huotilainen, 2019). The findings of this study are in line with Purbaningrum & Rofiah (2018) and suggest parents play a meaningful role in implementing intervention activities throughout the rehabilitation period for deaf children.

The implementation of meaningful intervention activities carried out by parents will support the effective rehabilitation process for deaf children who wear cochlear implants (Khairuddin et al., 2018). Therefore, the study found that educational intervention activities and steps implemented based on parents' participation in the interview session are among the forms of roles that have positive implications for language learning.

Deaf children who wear cochlear implants in this study were found to be successful in gaining a place in mainstream education. This is due to the advocacy role played by parents in defending the right of these children to get the same education in mainstream schools or be

in the Inclusive Programme (Ministry of Education Malaysia, 2013). Such efforts are in line with the advice of professionals that deaf children who receive cochlear implants and digital hearing aids are recommended to be in mainstream classes (Naples & Ruckenstein, 2020; Sharma et al., 2020). Inclusive or mainstream classes are the key to further developing the listening and speaking skills of deaf children. This is because special education classes limit the opportunities for deaf children to develop their listening and speaking skills as well as their language learning (Khairuddin et al., 2018).

To benefit these children, the ability to speak is the main condition for hearing Children with Special Needs to enter the mainstream because the main mode of communication used in the mainstream class is oral (Samsudin et al., 2017). Therefore, the successful mastery of 3M by deaf children who wear cochlear implants in this study has shown that these children deserve to be in mainstream classes. Even so, schools may reject the admission of hearing Children with Special Needs to be in mainstream classes on the grounds of lack of expertise or lack of skilled teachers, lack of school facilities, and so on. These are among the challenges faced by parents of these children who are found to be eligible and can follow learning in mainstream classes after they have successfully mastered the skills.

So, the success of each child's ability to speak in this study has made the parents defend the right of these children to be in the mainstream despite receiving opposition from various aspects from teachers and schools. The advocacy role played by parents in this study was found to have helped these deaf children get the opportunity to further develop their listening and speaking skills by being in a mainstream class that can support language learning.

The advocacy role played by parents to place their children in mainstream classes is also based on the expectations set by parents for deaf children with cochlear implants based on their achievements. The environment in the mainstream class is an environment that further supports the development of listening and speaking skills of deaf children (Naples & Ruckenstein, 2020). Therefore, the high confidence of all the study respondents in the mastery of the 3M basics that the children have and the parents' realistic expectations to place them in the mainstream have supported the findings of the study by Goh et al. (2018) that the National Cochlear Implant Programme is an effective programme in which these deaf children are in a typical community environment and receive the same education as their normal peers.

The early use of cochlear implants and parental involvement in rehabilitation are factors that are interdependent and influence the willingness of hearing Children with Special Needs to be in the mainstream class (Cila Umat et al., 2018). Therefore, the role of parents' realistic expectations has shown an important need for parents to further help develop the children's language learning (Alkhatani, 2021). If parents place too high or too low expectations on deaf children who wear cochlear implants in education, then the potential from various angles, such as cognitive, emotional and social, cannot be developed. Their listening, speaking and language skills may also decline and cannot be developed.

Concern for the needs of deaf children is an important role to play in helping deaf children with cochlear implants learn language. The findings of this study show that the role of concern shown by parents to their children by wearing hearing aids and checking the devices has helped these children to achieve a good level of listening and speaking skills (Aloqaili et al., 2019).

When parents carry out their responsibilities by taking care of their children's needs such as knowing and checking hearing aids and considering the processes that these children must go through such as talking to them more during the early age of implantation, they can continue to get good functions and benefits from the use of cochlear implants. This will be

able to guarantee an optimal and intensive rehabilitation process (Yoshinaga-Kitano et al., 2020). The role of parents' concern is also demanded in ensuring that children who wear cochlear implants get what they need at school by asking teachers and the school for their children to be in the right position in the classroom for them to get optimal hearing, thereby developing cognitive and academic skills.

This shows the role played by parents through interventions that reflect the attitude of concern for their children's needs has had an impact on the linguistic, cognitive and educational development of deaf children (Khairuddin & Miles 2020). Therefore, parental intervention, which is a form of concern for the needs of deaf children, has enabled these children to get accommodations and modifications at school that help improve their language learning skills.

To ensure that the process of development of listening and speaking skills of deaf children who wear cochlear implants goes well, the role of continuous group cooperation from various parties is demanded (Gale, 2020). Parents should play a collaborative role with the clinical team in helping deaf children's language learning by following every guide and instruction given by their clinical team (Hall et al., 2019). This is to ensure that the development of the children's listening and speaking skills can take place smoothly.

In addition, teachers are also one of the parties who must cooperate in ensuring that deaf children in the mainstream can follow the learning sessions well. This is because the teacher's support in supporting the therapy efforts undergone by hearing Children with Special Needs who wear cochlear implants in mainstream classes is required to ensure that the language learning process of these children can run better and faster (Khairuddin & Miles 2020). The findings of the study show that teachers provide positive support to parents in this study when the teacher implements accommodations and modifications to the children of the respondents at school so that they can follow the teaching and learning sessions well in class. Therefore, the role of continuous collaboration between various parties (parents, clinical team and teachers) was found to provide implications in helping deaf children who wear cochlear implants to learn language.

The inclusion of deaf children who wear cochlear implants into mainstream classes is an action that can help further develop the listening and speaking skills that are the backbone of these children's language learning (Sharma et al., 2020). This study found that the mainstream learning environment allowed these deaf children to listen more actively and be more active in communicating because all the respondent's children were able to follow learning in the mainstream class well. Teachers who teach Children with Special Needs in the mainstream prioritize oral communication. The use of this oral communication mode will further encourage Children with Special Needs who wear cochlear implants to listen and speak (Purbaningrum & Rofiah, 2018).

If these students often hear the sounds of the language throughout the oral interaction that takes place in the mainstream class, then a good level of auditory achievement will be able to be developed and achieved by them (Samsudin et al., 2017). In this study, parents were found to have made careful preparations for their children by giving full focus on the development of listening and speaking skills and then the mastery of 3M until successfully placing these children in mainstream classes. So, with the placement, this study has proven that the role of holistic preparation by parents for deaf children has ensured that the child becomes literate in speech and language, which in turn, becomes one of the factors in the readiness of these deaf children to be in the mainstream class (Umat et al., 2018). It can be seen based on the findings of the study that the important thing is the commitment of parents

in making comprehensive preparations for deaf children. This plays an impactful role in helping deaf children who wear cochlear implants to have brighter opportunities to develop listening and speaking skills and learn their language through placement in mainstream classes.

This study also found that sustainable rehabilitation by parents is also a role that has an impact on deaf children who wear cochlear implants in learning language. The findings of the study show that parents who can sustainably perform rehabilitation will achieve satisfactory results so that the children can catch up with their hearing to be on par with their actual age. All children of the study respondents managed to acquire language and speech levels equal to or greater than their hearing age and showed equivalent or better language and speech development than normal hearing children of the same age. This success factor proves the effect of parents who carry out sustainable rehabilitation for children who wear cochlear implants (Abdullah et al., 2022).

This study also found that parents who provide full involvement in the rehabilitation period of deaf children will create an environment that supports the development of listening and speaking skills. Good language achievement is not only due to auditory factors, such as the use of cochlear implants before reaching the age of 2 or monoaural or bimodal use, but also other factors, such as environmental factors. For example, the involvement of parents in the rehabilitation process is a catalyst for the success of children with hearing problems to have a good level of listening and speaking and a superior level of language (Boons et al., 2013).

Implications and Suggestions

Based on the discussion of the study, several things need to be paid attention to ensure that children with hearing problems who wear cochlear implants get continuous help and support in various matters, especially from the health and education points of view.

Early Intervention

The findings of the study show that early intervention is also an important factor in generating the potential of these deaf children to be able to live a life like their normal peers (Yoshinaga-Kitano et al., 2020). The use of cochlear implants at an early age, which is less than 24 months old, results in good language development. This situation clearly shows that the early use of cochlear implants affects the achievement of good speech and language (Abdullah et al., 2022).

In carrying out these efforts, the Malaysian government, through the Malaysian Ministry of Health (KKM), introduced the Universal Neonatal Hearing Screening (UNHS) in 2012 in stages. Through this hearing screening programme, the early detection service for newborn babies using Automated Auditory Brainstem Response (AABR) and Otoacoustic Emissions (OAE) can help early detection of whether babies have a risk of hearing problems or not (Abdullah, 2012). If early detection can be done, then the initial steps of whether these children are required to wear cochlear implants or hearing aids and undergo an early rehabilitation process can be determined (Ministry of Health Malaysia, 2022a). However, this screening programme was found to be implemented only in government hospitals with the status of satellite hospitals (Yusoff et al., 2017). This makes screening services quite limited.

It is, therefore, suggested that this UNHS service be extended to all government hospitals in every district in every state. This is because deaf children can be born in any area of the country, whether inside or outside the city. When this service is limited to being offered only in satellite hospitals and not offered in rural hospitals, it is feared that babies born with hearing

problems in hospitals in rural areas cannot be identified early. This will cause early intervention for the baby to be implemented only at a later age.

Early intervention is very important for deaf children because hearing loss will affect the acquisition of language and speaking skills (Holzinger et al., 2020). Language skills are needed in the teaching and social interaction of every child. Therefore, the Ministry of Health should introduce this UNHS screening programme to all hospitals in the country so that early intervention can be implemented sooner for every baby born in all areas of the country.

Empowering the National Cochlear Implant Programme

In 2008, the National Cochlear Implant Programme was first introduced in the hospitals of the Ministry of Health Malaysia (KKM), which have the status of satellite hospitals. Until 2021, data on the number of implant recipients has recorded a total of 537 patients (adults and children) who underwent cochlear implant surgery (Ministry of Health Malaysia, 2022b). The success of the National Cochlear Implant Programme is proven through the study of Goh et al (2018), who have shown that the majority of children who maintain the use of cochlear implants (97.6%) are found to be more than half able to communicate orally (69.8%) and 58.5 percent of the children are registered in the mainstream education system. The findings show that this programme has a good impact in that children born with hearing problems can lead a life like their normal peers.

The use of cochlear implants is recognized to be effective against deaf children in ensuring they live a life like their normal peers (Naples & Ruckenstein, 2020; Sharma et al., 2020). This is proven when the study found that all the children of the respondents in the study were in the mainstream class and got along with their typical friends without experiencing any issues. Therefore, the national cochlear implant programme should be further strengthened by the government, providing completely free treatment to every child born with a hearing problem or at least to a family that is in the B40 category.

This is because every individual regardless of any disability has the potential to succeed in various fields. They also can give back and contribute back to their country in various aspects, such as being a teacher or an engineer. This can be proven by the excellent achievements of the first cochlear implant recipient in Malaysia, Ang Boon Su, who is now giving back to the country by becoming an academic lecturer at the Malaysian Teacher Education Institute. Therefore, the Malaysian government should start taking steps to offer a higher level of health and well-being to every child who is born deaf by fully sponsoring the funding of cochlear implant surgery, including the rehabilitation programme that will be followed by children born with hearing problems.

In addition, the government, through the Ministry of Health, should establish cooperation with every company that manufactures cochlear implant devices in the country so that the companies, including a clinical team consisting of audiologists, speech therapists, and others, can provide full services throughout the rehabilitation period to their customers who wear devices produced by their company. If this collaboration can be successful, then the occurrence of successful rehabilitation of deaf children can be made possible, and then they will be able to contribute back to the country.

Empowering Special Education Policy

The number of excellent students among deaf individuals in the country is increasing and this is evidence of the ability of these individuals to stand out in the academic field. The number of students with special education needs entering the Inclusive Education Programme has

increased from 652 students in 2019 to 1,229 students in 2021. The findings of the study show that the parents in the study realize that their children with hearing problems have the same right as typical children to be in mainstream classes. Nevertheless, the interview with the study respondents also found that there are some challenges in their wanting to place these children in mainstream classes during the early stages. This can be seen based on the findings that two respondents found it difficult to get good cooperation from the school when the school did not allow the entry of these children into the mainstream class and advised them to move to a school with a special education programme.

This situation shows that the implementation of the special education policy and the enforcement of the Special Education Regulations 2013 (Ministry of Education Malaysia, 2013) is weak in its implementation and enforcement. Therefore, the Ministry of Education (KPM) should strengthen the policies related to special education and further increase the frequency of guidance and monitoring of the implementation of policies related to education for students with special educational needs (Children with Special Needs), such as the Zero Reject Policy, and so that every school is ready to accept the admission of students from Children with Special Needs.

In addition, the 'Inclusive Education Training Course' can also be implemented for future teacher candidates and mainstream teachers who are currently serving. Through the implementation of the course, teaching methods, pedagogy and other matters that need to be seen and considered for Children with Special Needs in mainstream classes can be known by teachers who are not in the field of special education. With that, the implementation of the Inclusive Education Programme can run more efficiently, and Children with Special Needs can follow learning better and more comfortably as well as being able to provide healthy competition in learning.

Multi-Agency Transdisciplinary Collaboration

In Malaysia, services to help deaf children are implemented by various agencies. For example, the Ministry of Health provides a universal hearing screening programme, rehabilitation for deaf individuals, and much more (Ministry of Health Malaysia, 2022a). Then, the Social Welfare Department (JKM) provides registration services and issues Disabled Persons (OKU) cards, offers rehabilitation services such as Community Rehabilitation Centres (PDK), and provides external services in the form of job assistance and living allowances for individuals with disabilities, including for individuals with hearing impairment (Amin et al., 2020). Meanwhile, KPM provides preschool to secondary education programmes for every child, including those who are deaf (Ministry of Education Malaysia, 2013).

With the existence of these various agencies, an Inter-Agency committee is appropriate to be established to carry out the fragmented and separate service activities from each agency. This may be due to the absence of a designated team or officer from any of these agencies to lead the committee. Therefore, it is suggested that the Special Education Division (BPK), Ministry of Education Malaysia, is appropriate to head the 'Inter-Agency Committee' because these children will begin to enter school as early as the age of four until they finish learning in the fifth form. This is because the majority of these children's time is spent at school and the management of these children is largely under the control of the Ministry of Education. Therefore, it is very appropriate for the Special Education Division, Ministry of Education to lead this committee so that collaboration, in the form of transdisciplinary collaboration, can be established. The team would be made up of agencies from the Ministry of Education, the

Ministry of Health and the Department of Social Welfare as these three agencies offer a continuum of services to deaf children.

When this transdisciplinary collaboration is established between these agencies, a more efficient form of service can be provided to citizens or parents and students in need. For example, by directly channelling information about the number of new births of children with special educational needs, especially deaf, blind children and other Children with Special Needs categories to Children with Special Needs, it will enable Children with Special Needs to prepare a projection of educational needs in terms of teacher training, classroom and school preparation, teaching and learning needs, and so on. Therefore, issues such as the lack of special education teachers, the lack of skills of mainstream teachers in supporting rehabilitation and teaching Children with Special Needs in the Inclusive Education Program, the dropout of students with special education needs in the educational aspect, and the issue of schools and full classes or the like will no longer arise.

In addition, the record-keeping and provision of information about education and the needs required by students with special educational needs by this committee can also be a form of documentation that can support the placement of these Children with Special Needs to continue their studies at the highest level.

Conclusion

The successful use of cochlear implants by children with hearing problems at an early age is not the sole factor for these children to have the ability to hear and speak. However, the factor of initial use of implantation and the role of parents in involving themselves throughout the rehabilitation process are two mutually beneficial factors in enabling deaf children who wear cochlear implants to be able to hear and speak. This study conducted through the exploration of parents' experiences in the success of children with cochlear implants proves that the roles played by parents are a form of support given by the parents and are found to have implications in helping deaf children who wear cochlear implants to learn language. The themes that have been identified and described in this study prove that the involvement and support of parents throughout the rehabilitation period of deaf children has a high impact on language learning that is formed through the development of listening and speaking skills. In conclusion, the role and support played and given by parents proved to have implications for the language learning of deaf children who wear cochlear implants. Through full parental support and involvement, deaf children with cochlear implants can lead lives like their typical peers.

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