A Study of Problems, Needs and Guidelines for Helping Children With Cochlear Implantation in Inclusive Schools

Chanida Mitranun, Srinakharinwirot University, Thailand
Maliwan Tammasaeng, Suan Dusit University, Thailand
Pradabsri Pintuto, Nakhon Ratchasima Rajabhat University, Thailand

The Paris Conference on Education 2025
Official Conference Proceedings

Abstract

This research aimed to study the problems, needs, and guidelines for helping children with cochlear implantation (CI) in inclusive schools. The participants were divided into two phases. Phase 1, the study of problems and needs of children with CI, included school directors, teachers, parents, and students with CI, totaling 25 people. Phase 2, the study of guidelines for helping children with CI, included 12 specialists with knowledge and/or experience related to children with CI. The data were collected through documents, observation, and focus group, and data analysis using content analysis. The research findings were as follows: The problems: a lack of specialized personnel for speech training, a limited number of schools accepting children with CI, teachers lacking knowledge and understanding of how to assist children with CI, parents and teachers lacking knowledge about the rights, welfare, and sources of assistance for children with CI. Parents were also concerned about the speech training cost and the educational future of their children with CI. The needs of children with CI: the needs for teachers who could provide speech training, the promotion of teachers' knowledge about CI, a support system for children with CI, and increased publicity about the rights and welfare of children with CI. The guidelines for helping children with CI: establishing an effective transition system, formulating robust policies and laws related to special education, developing communication skills for children with CI, organizing programs to enhance teachers' understanding, and creating a public relations system about information on CI.

Keywords: children with cochlear implantation, problems, guidelines for helping, inclusive schools

iafor
The International Academic Forum
www.iafor.org

Introduction

Persons with hearing impairment refers to individuals who have lost auditory function due to defects or impairments in the hearing organs, such as deteriorated or damaged auditory nerves, resulting in the inability to hear sounds clearly or at all. This group includes those with hearing loss between 26–90 decibels, which impacts their daily lives. Hearing impairment can be categorized into two types: hard-of-hearing and deaf. Deaf people refer to individuals who experience such severe hearing loss that they are unable to comprehend speech through hearing, regardless of whether or not they use a hearing aid, with a measured hearing loss of 90 decibels or more (Ministry of Education, 2009).

In Thailand, according to data from the national disability registration database maintained by the National Office for Empowerment of Persons with Disabilities, it was found that the number of people with hearing and interpretive disabilities accounts for 19.12 percent of all persons with disabilities. Furthermore, an analysis of the three-year trend revealed that the number of people with hearing and interpretive disabilities has continued to increase annually (Committee of Empowerment of Persons with Disabilities, 2024).

Although hearing loss may arise from many uncontrollable causes, systematic screening, treatment, rehabilitation, and care must be implemented to reduce the incidence of hearing loss across all age groups (Communication Unit, Health Systems Research Institute, 2019).

Medical advancements in “cochlear implantation” have enabled individuals with hearing loss or deafness to regain the ability to hear, improve their quality of life in society, and reduce the social costs associated with assisting the deaf. At present, cochlear implantation can be performed in young children aged one year and older and has shown positive outcomes in language development among children with cochlear implants, with development close to that of children with normal hearing (Komin, 2008).

This is consistent with the research of Tammasaeng and Mitranun (2018), which found that children who received cochlear implantation between the ages of 1 year and 5 years 6 months had better post-implantation quality of life, according to the perspectives and experiences of their parents, compared to children who received implantation between the ages of 5 years 7 months and 10 years 6 months, and children who received implantation at the age of 10 years 7 months and above.

According to a report on the status of the cochlear implant registry in Thailand as of 31 August 2019, the system contained data on all registered patients. It was found that the majority of the children were between the ages of 2–4 years and had been assessed for cochlear implantation (19.14 percent) (Piromchai et al., 2020). However, when considering statistics on children with cochlear implants who were unable to enroll in inclusive schools and had to return to study in schools for disabilities in significant numbers, this reflects a lack of cost-effectiveness in cochlear implantation. One contributing factor is the education system’s refusal to accept children with cochlear implantation into schools, resulting in suboptimal outcomes in auditory and speech rehabilitation following the cochlear implantation. This aligns with the findings of Tammasaeng and Mitranun (2018), who found that parents of CI children were concerned that many schools refused to accept CI children. As a result, families had to relocate to live near schools that accepted CI children, enroll in expensive private schools, or send their children to schools for the deaf, which limited the CI children’s opportunities to develop spoken language. In such environments, children tended

to adopt sign language as the primary mode of communication, influenced by the context of the school.

Therefore, the researcher was interested in studying the problems, needs, and guidelines for supporting children with cochlear implants in inclusive schools. The results of this study will be used to establish a model AVT center to support CI children in inclusive schools, aiming to enhance their educational capabilities and reduce the number of children with cochlear implants who must return to schools for the deaf. The findings will also serve as foundational information for developing policies on establishing AVT centers nationwide to support children with cochlear implants.

Research Objective

To study of problems, needs and guidelines for helping children with cochlear implantation in inclusive schools.

Methodology

Phase 1: Study of the Problems and Needs of Children With Cochlear Implants in Inclusive Schools

Step 1: *Study of the Actual Educational Conditions of Children With Cochlear Implants in Inclusive Schools*

Details are as follows:

Participants included 1 school administrator, 2 teachers of children with cochlear implants, 2 parents of children with cochlear implants, and 2 learners with cochlear implantation from Phratumnuk SuanKularb School, a total of 7 persons. Data collection instruments included focus group discussion topics, focus group discussion record forms, and audio recorders. Data were collected through focus group discussions and a study of the actual educational conditions of children with cochlear implants in inclusive schools. Data were analyzed using content analysis.

Step 2: Study of the Problems and Needs of Children With Cochlear Implants in Inclusive Schools

Details are as follows:

Participants included 6 teachers of children with cochlear implants in inclusive schools, 1 teacher of children with cochlear implants from the Central Special Education Center, 1 teacher of children with cochlear implants from the Demonstration and Development Center for Children with Cochlear Implant, and 10 parents of children with cochlear implants, a total of 18 persons. Data collection instruments included focus group discussion topics, focus group discussion record forms, and audio recorders. Data were collected through focus group discussions, divided into 2 groups: a group of 10 parents of children with cochlear implants supported by the Foundation for the Deaf, and a group of 8 teachers of children with cochlear implants supported by the Foundation for the Deaf. Data were analyzed using content analysis to enable the researcher to understand the problems and needs of children with cochlear implants in inclusive schools and to gather suggestions for the future.

Phase 2: Study of Guidelines for Helping Children With Cochlear Implants in Inclusive Schools

Participants were specialists/experts with knowledge and/or experience related to children with cochlear implants, including 1 Director of the Educational Promotion in Schools for Disabilities Group, 1 deputy director of a special education center, 1 deputy director of an inclusive school, 1 deputy director of a school for the deaf, 2 university lecturers, 2 special education teachers from the Demonstration and Development Center for Children with Cochlear Implant, 2 special education teachers from a provincial special education center, 1 special education teacher from a school for the deaf, and 1 parent of a child with cochlear implants, a total of 12 persons. Conducting a focus group to explore of guidelines for helping children with cochlear implants in inclusive schools. The research instruments are a tape recorder, and a focus group record form. The qualitative data were analyzed through the content analysis involving the coding for the theme, looking for pattern, and making interpretations.

Results

The problems of children with cochlear implants in inclusive schools are as follows:

Teacher-Related Issues

There is a lack of teachers with expertise in speech training for learners with cochlear implantation in inclusive schools. As a result, learners lack confidence in communicating with others, refuse to use spoken language, and instead rely on sign language. This negatively affects their cognitive development and various skills. Teachers lack knowledge and understanding regarding the support and care of children with cochlear implants. This includes a lack of knowledge about children with cochlear implants, failure to prepare individualized education program (IEPs) for children with cochlear implants, and insufficient understanding of cochlear implant care. Consequently, teachers may view children with cochlear implants as burdens.

School-Related Issues

There are few schools that accept children with cochlear implants, due to shortages of special education teachers, inadequate environments, learning materials, and facilities to accommodate children with cochlear implants. Additionally, there is a negative attitude among school administrators, who believe that children with cochlear implants should study in schools for disabilities rather than in mainstream schools.

Parent-Related Issues

Parents were unable to continuously take children with cochlear implants for speech training due to the high cost of speech therapy. Additionally, frequent malfunctions of the cochlear implant caused time delays for repairs and incurred high expenses. Without the cochlear implant, children with cochlear implants could not hear, which affected teaching and learning, as children with cochlear implants could not understand vocabulary and sentences spoken by the teacher. As a result, they lost interest in learning and were unable to communicate effectively, leading children with cochlear implants to use sign language instead of spoken language. Parents lacked knowledge and understanding about the rights and

welfare of children with cochlear implants, as well as information about available support services and the transition of children with cochlear implants. This led to high expenses for parents. Children who had undergone implantation were slow in developing speech because they had to wait in a long queue for speech training after cochlear implantation and due to the lack of a systematic transition process for children with cochlear implants. Parents felt anxious about the educational future of children with cochlear implants and were uncertain whether their children should continue along the vocational or academic track.

The needs of children with cochlear implants in inclusive schools revealed the following:

Teacher-Related Needs

There should be special education teachers who can provide speech training for children with cochlear implants in inclusive schools. There should be dedicated rooms and scheduled hours for listening-based speech training for children with cochlear implants. Speech training clubs should be established. There should be collaboration among special education teachers, regular teachers, guidance counsellors, and speech therapists from hospitals to support and promote learning and appropriate classroom behavior for children with cochlear implants. Teachers should be encouraged to gain knowledge about supporting children with cochlear implants, such as creating IEPs, understanding the nature of children with cochlear implants, providing academic and behavioral support—e.g., speaking slowly to enable children with cochlear implants to lip-read, assigning a buddy from the regular students to assist children with cochlear implants, and fostering a supportive attitude towards children with cochlear implants. Teachers should also know how to maintain and change the battery of the cochlear implant. Parental cooperation is essential in consistently helping the child practice listening, speaking, and reading, and schools should work in coordination with parents to support the development for children with cochlear implants.

School-Related Needs

Schools should provide systems for care, supplementary teaching, and support for children with cochlear implants, such as after-school tutorials, peer support systems, and buddy programs where classmates help children with special needs. There should be more dissemination of information about the rights and welfare of children with cochlear implantation and the available speech training resources so that both teachers and parents are well-informed, which would benefit the schools, parents, and children with cochlear implantation.

The guidelines for helping children with cochlear implants in inclusive schools.

Establishing an Effective Transition System

The transition process should begin at the hospital level by providing knowledge and understanding of the cochlear implantation process—before, during, and after implantation—to both parents and children with cochlear implants. Information about the children with cochlear implants should then be transferred from the hospital to the provincial special education center. Parents will play a role in delivering accurate information to the provincial special education center. The center will then prepare the children with cochlear implants by providing listening-based speech training and avoiding the use of regional dialects, which may cause speech distortion in this group of children. This preparation process requires

cooperation from both parents and hospitals. When the children are ready to attend an inclusive school, the provincial special education center will create an individual transition plan (ITP) for the inclusive school and continue to monitor the children with cochlear implants through the school and parents to ensure consistent support for children with cochlear implants. Schools will need information from the special education center and accurate data from parents. It can be seen that a successful transition system requires cooperation and awareness from all parties, including hospitals, special education centers, school administrators, and all teachers, with parents serving as effective coordinators.

Formulation of Policies and Legislation Related to Special Education

The formulation of policies and legislation related to special education in a serious manner by establishing a policy requiring individuals who pass the examination to become school directors, deputy school directors, and educational supervisors who did not graduate in the field of special education to complete at least one training course on "Education for Children with Special Needs." The Teachers' Council of Thailand must stipulate that all Bachelor of Education students must take at least one course in "Education for Children with Special Needs" in order to gain knowledge and understanding for teaching and supporting this group of children. Furthermore, there should be a policy requiring all schools to place importance on and accept children with cochlear implants into the schools, and must prepare IEP and ITP for every child in this group. In addition, there should be a policy to address the shortage of teachers in auditory-verbal teaching, divided into 3 phases as follows: short-term, hiring auditory-verbal teachers to be stationed at schools by requesting cooperation from parents to share the costs or requesting assistance from the provincial special education center; medium-term, training teachers to be able to teach auditory-verbal by requiring that every school must have one AVT teacher per school; long-term, developing a Graduate Diploma Program in the Teaching Profession in the field of education management for children with cochlear implants.

The Development of Communication Skills for Children With Cochlear Implants in Inclusive Schools

Schools should continuously develop communication skills for children with CI because if development is not continuous, this group of children will revert to using sign language, especially deaf children who have undergone implantation after previously attending school for the deaf, which results in a waste of the budget used for cochlear implantation. Therefore, schools should establish a "special needs student service center" consisting of an academic support classroom and a speech training room to provide auditory-verbal training services, with an auditory-verbal teacher assigning speech training hours to children with cochlear implants. In cases where the school does not have an auditory-verbal teacher, coordination can be made with hospitals and the special education center to send students to receive speech training during class time, or request services from the provincial special education center to assist in providing learning and behavioral counselling, guidance and counselling on possible pathways after completing basic education, preparing IEP, IBP, and ITP, transitioning between grade levels and school levels, coordinating with hospitals and the special education center to support speech training and other aspects. Teachers should use spoken language with children with cochlear implants more than using sign language for communication, and should also cooperate with parents in conducting speech practice at home and follow up consistently.

Developing Knowledge and Understanding Programs on Children With Cochlear Implants in Inclusive Schools

Most teachers in inclusive schools did not graduate in the field of special education, they lack knowledge and understanding in supporting children with cochlear implants. Therefore, there should be practical workshops on "supporting children with cochlear implants in school," as well as in-house training by special education teachers and conducting PLC after school. The topics for knowledge provision include changing batteries for cochlear implants, auditory-verbal therapy (AVT), preparing IEP and ITP, etc. Continuous teacher development is necessary so that every teacher will be able to support children with cochlear implants in inclusive schools.

Establishing a Communication System Regarding Medical Legislation and Cochlear Implantation Information

Establishing a communication system regarding medical legislation and cochlear implantation information in a comprehensive manner so that parents of children with hearing impairments are informed about the rights of children with cochlear implants from before the cochlear implantation process, during implantation, and after implantation in order to receive equal educational opportunities with normal children, as well as enabling early identification of children with hearing impairments from the hospital level, which will lead to earlier cochlear implantation, allowing the child to hear sounds sooner and thereby improving the quality of life for this group of children.

Discussion

Shortage of teachers with expertise in speech training for learners with cochlear implantation in inclusive schools; lack of knowledge and understanding regarding the support and care for children with cochlear implants due to a shortage of special education teachers. According to the report on the number of civil servant teachers and educational personnel in inclusive schools, it was found that teachers with qualifications in special education at all levels accounted for 0.52 percent of the total number of teachers in inclusive schools (Special Education Bureau, Office of the Basic Education Commission, 2023). This is consistent with Jatuchokudom et al. (2022), who stated that obstacles to individualized special education include that teachers are not yet ready to accept students into mainstream classrooms, teachers still need additional training in special education, there is a shortage of special education teachers, and teachers resign during the semester. The number of schools accepting children with cochlear implants is low, including the negative attitudes of school administrators towards children with cochlear implants. This is because administrators are a key factor in promoting the success of inclusive education. Administrators must be the ones who implement and define strategies, establish practical and continuous policies, and must have a positive attitude towards special education, not seeing it as an obligatory burden. The attitudes of administrators greatly affect the management of special education in educational institutions (Jatuchokudom et al., 2022). This corresponds with the research by Kingkaew et al. (2019), which found that sometimes schools refuse to accept students with cochlear implantation and that schools are unable to accommodate all types of students with special needs (Songpracha, 2019).Parents are unable to bring children with cochlear implants to speech training sessions continuously due to the high costs of speech training and expenses related to cochlear implants; lack of knowledge and understanding about the rights and welfare for children with cochlear implantation; and anxiety about the educational future of

children with cochlear implantation. This is because treatment with cochlear implantation involves relatively high costs. This corresponds with Pitathawatchai (2022), who stated that a high-spec cochlear implant costs no less than 850,000 baht, and there are also other post-implantation expenses such as batteries or spare parts that break easily, averaging about 30,000–40,000 baht per year. Only children whose parents are civil servants can claim reimbursement and access cochlear implants. If they are not civil servants, very few children can access this treatment, leading parents to incur debts both within and outside formal systems to cover the medical expenses. Factors affecting the success of transition implementation include the existence of legal and policy support systems; participation of persons with disabilities, their parents or guardians, administrators, teachers and personnel in educational institutions, workplaces, organizations, and relevant agencies, all of whom must have roles, duties, and responsibilities to drive successful transition management. Related personnel must have knowledge, understanding, and a positive attitude towards transition services in order to enable practical implementation. There must be sufficient and appropriate resources in terms of budget, materials, and technology to support transition services. There must be a system for managing transition services that is appropriate to the context of the educational institution and quality coordination must be present (Special Education Bureau, Office of the Basic Education Commission, Ministry of Education, 2018). The establishment of policies and laws related to special education and their serious implementation is essential for creating an education system that fairly and equitably responds to the needs of all children. It guarantees children's rights and helps ensure that children with special needs receive the right to access education equally, including services appropriate to the specific needs of this group of children. Moreover, clear policies can support teachers and educational personnel in training and developing skills for working with children with special needs, as well as assist in allocating necessary resources for education, raising social awareness, reducing the stigmatization of children with special needs, and increasing acceptance of children with special needs, along with effective monitoring and evaluation of operations (National Centre for Learning Disabilities, 2020). This corresponds with Morrison (Morrison, 2014), who found that the establishment of policies for equal access to education and appropriate support for children with special needs is crucial for creating an education system that fairly and equitably responds to the needs of all children. Children with cochlear implantation need continuous speech training and a support system for inclusive learning in mainstream schools. The support system for children with cochlear implants is important in several respects: 1) Development of communication skills: Children with cochlear implants need support in developing speech and listening skills in order to communicate effectively. 2) Access to education: The support system helps children access quality education and enables them to learn according to appropriate standards. 3) Emotional support: Having a support system reduces the anxiety of parents and builds confidence in children. 4) Building understanding in society: It supports children in adapting to society and improving their relationships with classmates. 5) Development of social skills: The system supports children in developing social skills and collaboration with others (Luangpitakchumpon, 2010). Therefore, having a support system for children with cochlear implants is important to increase children's learning rates, provide opportunities for children to exhibit speech and conversational behaviors among themselves, and emphasize practice to enhance children's understanding. An effective child support system is thus crucial for the inclusive and sustainable development of children with cochlear implants (Preece, 2014). Training is a process of developing personnel in an organization through a systematically conducted training program, including planning the training, implementing according to the plan, and evaluating the training program, in order to enhance the working potential of personnel in terms of knowledge, skills, attitudes, and proficiency in performing their duties (Ritjaroon,

2017). The responsible government agencies should establish effective public relations strategies by building correct understanding and disseminating truthful information through appropriate media channels. Tools used for public relations include, for example, radio, television, magazines, newspapers, billboards, internet, news releases, interviews, exhibitions, seminars, forums, discussions, and competitions (Krittakom, 2021).

Recommendations

The Office of Special Education Administration should an effective transition policy system, raising awareness and providing knowledge to school directors and educational supervisors, cooperation with the Teachers Council to contain special education courses for teacher student in all educational institutions, etc. and cooperate with educational institutions to promote and support teachers in all schools to receive AVT training courses, and establish a public relations system regarding medical laws and information on cochlear implantation.

Acknowledgements

The author would like to thank The Foundation for the Deaf Under the Royal Patronage of Her Majesty the Queen in Thailand to support research funds for this research.

References

Committee of Empowerment of Persons with Disabilities. (2024). *Empowerment of Persons with Disabilities Act B.E. 2550 (2007)*. Ministry of Social Development and Human Security.

Jatuchokudom, S., Chaowchalermgul, N., Mitranun, C., & Khiowvichit, C. (2022). Trends in the provision of inclusive education in Thailand and factors for success. *Journal of Research and Development Special Education, 11*(1), 17–34.

Kingkaew, P., Chinnacom, D., Chanjam, C., Malathong, N., & Yimtae, K. (2019). *Service availability and readiness assessment of cochlear implantation and rehabilitation services in Thailand*. Health Systems Research Institute (HSRI).

Komin, K. (2008). *Cochlear implant: A gateway to a world of sound*. http://www.hopetohear.net/special_story1_ci_doctor.html

Krittakom, S. (2021). The basic conceptual framework of public relations. *Journal of Modern Learning Development, 6*(5), 261–273.

Luangpitakchumpon, P. (2010). *The development of auditory verbal therapy program for prelingually deafened children with cochlear implant* [Master's thesis, Srinakharinwirot University].

Ministry of Education. (2009). *Ministerial regulation on defining categories and criteria for students with disabilities in education, B.E. 2552 (2009)*. Ministry of Education.

Morrison, R. (2014). Understanding special education policy in the United States. *Journal of Special Education Leadership, 4*, 31–38.

National Centre for Learning Disabilities. (2020). *Supporting teachers in special education: Best practices*.

Piromchai, P., Thanawirattananit, P., & Phuttharak, W. (2020). *Cochlear implant*. Health Systems Research Institute (HSRI).

Pitathawatchai, P. (2022). *The right to implant cochlear implants in children has not yet been realized in practice*. https://www.thecoverage.info/news/content/3612

Preece, P. (2014). *Special educational needs: A practical guide for teachers*. Routledge.

Ritjaroon, P. (2017). Training project evaluation: Concepts, models, and evaluation process. *STOU Education Journal, 10*(1), 42–57.

Songpracha, P. (2019). *The environment supporting students learning in school for the deaf* [Master's thesis, Silpakorn University].

Special Education Bureau, Office of the Basic Education Commission, Ministry of Education. (2018). *Transition services for students with disabilities in schools*. Ministry of Education.

Tammasaeng, M., & Mitranun, C. (2018). The quality of life of children with cochlear implantation: Parental perspectives and experiences. *Journal of Graduate Studies Valaya Alongkorn Rajabhat University, 12*(2), 35–48.

Contact email: chanidam@g.swu.ac.th