

# Evidence-based practice and Auditory-Verbal therapy

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**Abstract** The terms EBT – evidence based practice, EBT – evidence based therapy and EBA – evidence based approach have been declining in all disciplines over the past few years, and it is not otherwise in auditory-verbal therapy. The philosophy of auditory-verbal therapy is based on the use of even minimal amounts of amplified hearing residue (using quality hearing aids, cochlear implant, etc.) and works with the opportunity to develop their ability to listen and use verbal communication in family and society. The aim of the article is to point out the sources and researches that publish systematic review studies from individual areas of auditory-verbal therapy.

**Keywords** auditory-verbal therapy, evidence-based approach

## 1. INTRODUCTION

In 2019, the World Health Organization estimated that 466 million people worldwide had hearing loss (it is 6.1% of the world's population) (WHO, 2019). Early detection through newborn hearing screening and hearing technology provide most children with the option of spoken language acquisition. (Fitzpatrick, 2016)

## 2. AUDITORY-VERBAL THERAPY

Auditory-verbal therapy is an early intervention education option that facilitates optimal acquisition of spoken language through listening by young children with hearing loss. It promotes early diagnosis, one-on-one therapy, and state-of-the-art audiological management and technology for example cochlear implant). Parents and caregivers actively participate in therapy. Through guidance, coaching, and demonstration, parents become the primary facilitators of their child's spoken language development. Ultimately, parents and caregivers gain confidence that their child can have access to a full range of academic, social, and occupational choices throughout life. ([www.agbellacademy.org](http://www.agbellacademy.org))

Cochlear implants are hearing devices comprised of an external microphone and speech processor worn just behind the ear that converts sound into electrical stimuli, which are captured

electromagnetically by a surgically implanted antenna. The antenna directs the signal to the internal electrodes, which in turn stimulate the auditory nerve. (WHO, 2019)

When patients are selected for cochlear implantation, they are evaluated according to medical, audiological, language development and psychological qualities. Appropriate identification of implant candidates can result in considerable progress in their hearing and speaking abilities after cochlear implantation when compared with the situation before implantation. Studies conducted show us that auditory perception and expressive speech development of the children using cochlear implant can be better than the children using hearing instrument. (Inscoc, 1999; Robbins, 1995; Sahli, Belgin, 2011)

Recent developments in implantable hearing technology have created opportunities for children with all degrees, types, and configurations of hearing loss to develop age-appropriate auditory skills and spoken language that are commensurate with their peers with typical hearing. (Wolfe, Neumann, 2016)

In the 21st century, auditory-verbal therapy has grown along with advances in newborn hearing screening, sophisticated hearing technologies, and family-centred intervention. The AG Bell Academy for Listening and Spoken Language offers continuing certification of listen and spoken language professionals. As auditory-verbal continues to transform the lives of children whose parents commit to the demands of being the primary agents of change, more evidence-based information about auditory-verbal therapy, and more immediate and direct access to programs based on best practices will be needed. (Estabrooks, MacIver-Lux, & Rhoades, 2016)

## 3. EVIDENCE-BASED PRACTICE

Evidence-based practice is defined as the conscientious and judicious use of current best evidence in conjunction with clinical expertise and patient values to guide health care decisions. (Titler, 2008; Cook, 1998; Jennings, Loan, 2001; Sackett, Straus, Richardson, 2000; Titler, 2006)

As Pring and Thomas (2004) state, many kinds of evidence are available to practitioners in support of ideas and propositions that arise as part of their work: from observation, from documents, from the word of others, from reason of reflection, from research of one kind or another.

However, there is a variety of rating systems and hierarchies of evidence that grade the strength or quality of evidence generated from a research study or report. Being knowledgeable about evidence-based practice and levels of evidence is important to every clinician as clinicians need to be confident about how much emphasis they should place on a study, report, practice alert or clinical practice guideline when making decisions about a patient's care. ([www.nurse.com](http://www.nurse.com))

All scientists – whether physicists, chemists, biologists, audiologists, speech and language therapists – use particular kinds of evidence and meld it in particular ways relevant to their fields of work and the methodological traditions that have developed there. Aside from significance of sufficiency, another strand has to be drawn out of this overview, and this is the social and interpretative context of evidence. (Thomas, 2004)

In the context of the above, it plays a large role systematic reviews and evidence-based policy and practice. Ungvarsky (2017) defines a systematic review as a carefully organized and structured assessment of all completed research on a specific topic. The term refers to both the process of conducting the review and the final document produced from the review process. The review establishes a specified objective and protocols to identify and evaluate all relevant primary literature, verify the validity of previous findings, and assemble and present the conclusions in a cohesive way that allows others to reproduce or confirm the findings. Performing a systematic review is less time-consuming and less expensive than conducting new studies. In addition, systematic reviews are generally more accurate than any individual study and the results can be more widely applied.

Kaipa and Danser (2016) published a systematic review from 1993 to 2015 of auditory-verbal therapy in children with hearing impairment. Their systematic search was conducted in six databases. Fourteen articles that met the final inclusion criteria were grouped under three categories based on the outcome measures: receptive and expressive language development, auditory/speech perception and mainstreaming. Articles under “receptive and expressive language development” category indicated auditory-verbal therapy can even help children with hearing impairment beyond three years of age to develop age appropriate language skills and catch up with their hearing peers. Articles under “auditory /speech perception” category suggested that children receiving auditory-verbal therapy can learn to recognize words accurately even in the presence of background noise. Articles grouped under “mainstreaming” category indicated that children receiving auditory-verbal therapy can be successfully mainstreamed. Kaipa and Danser (2016) mention – although studies suggest that auditory-verbal therapy can have a positive impact on developing speech and language skills in children with hearing impairment, it is difficult to generalize findings due to limited evidence. Future studies should utilize well-controlled group designs to minimize the role of external variables as well as strengthen the evidence-base for auditory-verbal therapy. According to Jøsvassen et al. (2019) most parents from Denmark found participating in auditory-verbal therapy rewarding and useful. Parents' primary reason for participating in auditory-verbal therapy was to help their child reach his/her fullest listen and spoken language potential. Most parents believed that they became better at providing core support, at collaborating with professionals, at supporting their child's development, and gained greater

consciousness of their child's hearing loss when participating in auditory-verbal therapy. Most parents focused on achieving the goals for their child, therefore they were happy to spend time on auditory-verbal therapy and they thought the primary responsibility of teaching their child to listen and speak was theirs. Some parents found auditory-verbal therapy somewhat stressful while other parents experienced a bad conscience for not having enough focus on auditory-verbal therapy. Most parents had realistic expectations to their child's future, but there seemed to be increasing uncertainties among the parents, maybe related to school start. Many parents wanted to be a part of their child's listen and spoken language development. It seems that professionals should not be reticent in engaging parents to whatever extent possible. Parents need to be aware of what difficulties their children can encounter because that is what drives the continuing development for these children. If parents and professionals in collaboration raise the bar for children with hearing loss and are aware of how to diminish the impact of difficulties encountered in the everyday life, then parents and professionals help the children to reach their fullest potential in respect of whom they are and what they want for their lives. Families with children who have additional disabilities can participate in auditory-verbal therapy and gain from it. Children with hearing loss had social well-being comparable to that of children with typical hearing. On matters of social well-being and future expectations for the children, the parents' ratings for children with additional disabilities were generally lower. Auditory-verbal therapy works in a country like Denmark. Parents evaluated this approach as a feasible way to carry out rehabilitation.

As Eriks-Brophy, Ganek, DuBois (2016) write, it would be useful for researches in auditory-verbal therapy to come to a consensus on the demographic information to be reported for all participants in order to eventually be able to carry out systematic reviews leading to conclusive results. Consistency in reporting information including age at diagnosis, age at amplification/implantation, hearing age, length and amount of time spent in auditory-verbal therapy, language(s) used in home, and socioeconomic status would permit greater generalization of findings across comparable groups. Socioeconomic status in particular has been identified as a potentially key variable influencing communication outcomes for children with and without communication disorders, and reporting this information in a consistent manner across studies would permit its impact to be examined more carefully. There continue to be a large number of studies that use convenience samples and do not include a control group, an important limitation to the existing evidence base.

#### 4. CONCLUSION

We agree with statement (Lim and Hogan, p. 62), "auditory-verbal practice is viewed by many practitioners and families as a highly desirable, viable, and effective approach within the family-centered early intervention model. Evidence-based findings regarding its effectiveness are lacking. Such evidence as exists is largely based on studies with small sample sizes and restrictive inclusion criteria. Moreover, auditory-verbal practice continues to be misunderstood and misrepresented by some practitioners, academics, and researchers. With our expanding knowledge regarding hearing technologies and evidence-based information on speech processing and language acquisition, it is critical to understand how family-centered early intervention programs and hearing technology interact and influence developmental outcomes. It is time for auditory-verbal practice to transition from best practice to evidence-based practice."

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