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TREATMENT EFFICACY OF AUDIO-VERBAL THERAPY IN CHILDREN WITH HEARING IMPAIRMENT

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Abstract:

This systematic review was conducted to investigate the treatment efficacy of Auditory-verbal therapy approach in hearing impaired children. Auditory verbal therapy focuses on optimizing child's ability to make use of their residual hearing. It is especially relevant for hearing impaired individuals who aim to communicate primarily through spoken language without the need for sign language or other visual communication methods. The researcher constitutes a comprehensive study that employed a systematic approach. To compile relevant studies multiple reputable databases such as Google Scholar, Scopus, PubMed, Web of Science and research gate was used.

The findings that have been analyzed in this study points that AVT is considered an instructive approach that is well- suited for children with hearing impairment also significant improvements have been seen in both expressive language and auditory comprehension among children who underwent AVT.

Keywords: Auditory verbal therapy, Auditory therapy, Auditory verbal approach, hearing impairment, AVT in hearing impaired

Introduction:

Hearing impairment, commonly referred to as hearing loss, is a prevalent sensory disorder that affects millions of people worldwide. It can range from mild to profound, and its impact on an individual's life can be far-reaching. Understanding hearing impairment is essential for improving the quality of life for those affected and ensuring inclusive and accessible environments for all. Hearing impairment in children can present a substantial barrier to language acquisition and social integration (1). The ability to hear and understand spoken language plays a pivotal role in a child's cognitive and emotional development, academic progress, and overall quality of life (2). In this context, AVT emerges as a critical intervention strategy aimed at harnessing the auditory potential of children with hearing loss (3).

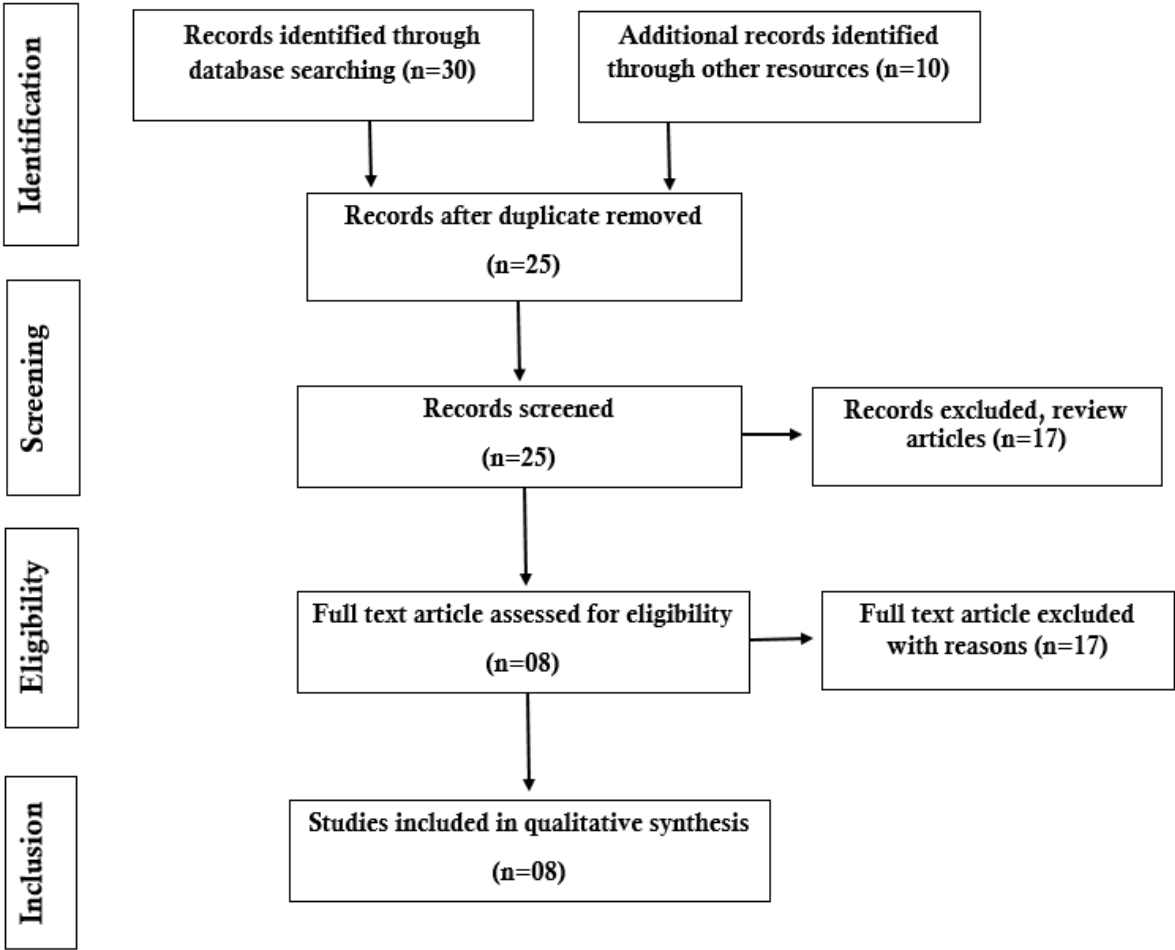
"AVT" typically refers to Auditory-Verbal Therapy, which is a specialized approach to help individuals with hearing impairment, particularly children, develop spoken language and listening skills (4). Auditory-Verbal Therapy focuses on optimizing a child's ability to make use of their residual hearing and any hearing technology, such as hearing aids or cochlear implants, to understand and produce spoken language (5). It is especially relevant for individuals who aim to communicate primarily through spoken language and do not use sign language (6). Auditory-Verbal Therapy is a family-centered approach that focuses on equipping children with the skills to listen, understand, and produce spoken language, without the need for sign language or other visual communication methods(7). It places a strong emphasis on early intervention, often commencing shortly after diagnosis, capitalizing on the brain's remarkable neuroplasticity during the critical language-learning period (8). This intervention approach primarily relies on the active participation of parents and caregivers in a child's journey toward spoken language proficiency (9). AVT therapists work closely with families, guiding them in creating a rich auditory and language environment at home. This partnership between professionals and parents is pivotal in fostering the child's auditory and language development (10). Over the years, numerous studies, clinical observations, and anecdotal evidence have shown that AVT can yield impressive outcomes in children with hearing impairment (11). By promoting listening skills and spoken language, children receiving AVT have demonstrated the capacity to attain age-appropriate language development, excel academically, and integrate more effectively into mainstream educational and social settings (12).

Despite the promise of AVT, ongoing research and clinical exploration are essential to further refine the intervention, assess its long-term effects, and address individual differences among children with hearing impairment. This review aims to delve into the existing body of knowledge, summarizing the treatment efficacy of Auditory-Verbal Therapy in children with hearing impairment. By understanding the current state of AVT and its potential benefits, we can better inform professionals, families, and caregivers in their efforts to support the spoken language development of children with hearing loss.

Methodology:

This research constitutes a comprehensive review study that employed a systematic search approach to investigate the Treatment efficacy of audio-verbal therapy in children with hearing impairment. To compile relevant studies, we employed various keywords, including "audio-verbal therapy," "treatment efficacy," "hearing impairment," and "AVT in hearing impairment." We conducted this search across multiple reputable databases, including Google Scholar, Scopus, PubMed, Web of Science, and Research Gate. Our eligibility criteria were designed to align with the research objectives and were quite specific. We prioritized studies with the largest sample sizes, particularly when multiple studies drew from the same dataset. Additionally, we excluded review articles, studies with copyright or permission constraints, and those for which the full text was inaccessible. For inclusion in our study, selected research articles had to meet the following criteria: their titles had to specifically address the role of audio-verbal therapy in hearing impairment, the full text of the articles had to be accessible and the research had to pertain to the domain of Speech-Language Pathology diagnosis. We limited the publication date range to studies published between January 2016 and December 2022.

Figure 1: Flow chart describing the selection procedure



Results:

Sr.No	Author (year)	Focus of research	Study design	Conclusion
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1.	Hickson L et al. (2010)	Effectiveness of AVT in hearing impaired children	Longitudinal study	The findings support the effectiveness of AVT as an intervention option, with a significant improvement in speech perception observed at moderate to high levels 50 months after the study commenced.(13)
2.	Fairgray et al. (2010)	Effects of AVT for school children with hearing impairment	Longitudinal study	Significant improvements were seen in speech perception and production, and in one measure of receptive language.(14)
3.	Jackson et al. (2014)	Language Growth in Children With Hearing Loss in an Auditory-Verbal Early Intervention Program	Longitudinal study	Language outcomes varied significantly for individual children based on time spent in early intervention, suggesting that intervention was contributing to growth.(15)
4.	Ester et al. (2017)	Academic outcomes of adolescents and young adults with hearing loss who received auditory-verbal therapy	Case-control study	The findings indicate that individuals who have undergone Auditory-Verbal Therapy (AVT) perform better than young adults with hearing impairment who did not receive rehabilitation through this approach.(16)
5.	Abigail et al. (2018)	Outcomes of early intervention for deaf children following an	Retrospective study	For deaf children who stay on an AVT programme for more than two years,

		Auditory Verbal approach to communication		listening and spoken communication is significantly enhanced.(6)
6.	Muhammad Ashori et al. (2022)	Impact of Auditory-Verbal Therapy on executive functions	Randomized case-control study	The results of this study indicate that Auditory-Verbal Therapy (AVT) could be effective in producing favorable results and may have a significant role in enhancing executive functions. (17)
7.	Shivaprakash et al. (2019)	Performance of hearing impaired children enrolled in AVT	Comparative study	Clear and effective communication relies on proper enunciation and comprehensibility in speech, and AVT significantly contributes to the process of language acquisition. (5)
8.	Aval et al. (2020)	auditory verbal therapy approach on children with bilateral sensory-neural hearing loss	Retrospective study	The use of the AVT method proves advantageous in the rehabilitation of older children who have bilateral severe to profound sensorineural hearing impairment. (18)

Discussion:

This review article study findings from 8 articles involves the auditory-verbal therapy as a treatment approach for hearing impairment. The primary goal of Auditory-Verbal Therapy (AVT) is to support the hearing-impaired child in following the typical trajectory of spoken language development. In contrast, more conventional approaches have often approached language development in hearing-impaired children from a remedial perspective, perceiving it as inherently different rather than simply delayed. This has led to lower expectations regarding the hearing-impaired child's ability to acquire spoken language and integrate into mainstream society. It has been proposed that Auditory-Verbal Therapy (AVT) can lead to improved receptive language skills and better speech production in children with hearing impairment, as indicated by studies like Erik's-Brophy and Dornan. Some research even suggests that AVT has the potential to help many children with hearing impairment reach speech and language levels that are comparable to their hearing peers, as seen in Hogan. While various approaches are employed to support the development of spoken language in children with hearing impairments, understanding how AVT may be successful in promoting spoken language development is best achieved by examining the distinctions between AVT and more conventional oral-aural approaches. The AVT method is known to differ from other oral-aural approaches in three key aspects: a strong focus on utilizing the auditory sense, an emphasis on involving the family, and a commitment to following the same developmental processes as those experienced by hearing children.

Recent findings from the reviewed papers underscore the positive impact of Auditory-Verbal Therapy (AVT) on the speech and language skills of children with hearing impairment, it remains challenging to make broad generalizations. AVT may serve as a valuable tool for helping hearing impaired children bridge the gap with their typically hearing (NH) peers. While Auditory-Verbal Therapy (AVT) is becoming more prevalent in various countries, it is typically provided by the private sector and often comes with a significant financial burden for families, which can limit accessibility for children from lower socioeconomic backgrounds. In contrast, other rehabilitation methods may be offered by government health or education services at little to no cost for families. The stated objectives of AVT, as outlined in Rhoades 2006, aim to provide hearing-impaired children with the language development needed to access mainstream education and achieve language skills comparable to their typically hearing peers. With the global expansion of AVT programs, it is crucial to provide unbiased information on the

effectiveness of AVT for hearing-impaired children. This enables parents to make informed decisions regarding the potential benefits and suitability of AVT for their child.

Conclusion:

This systematic review focused on the findings of eight peer-reviewed studies conclude that AVT is considered an instructive approach that is well-suited for children with hearing impairment. The longitudinal studies included in this review revealed statistically significant improvements in both expressive language and auditory comprehension among children who underwent AVT.

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