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HOW AUDIOLOGISTS ARE ASSESSING THE IMPACT OF AUDITORY DEPRIVATION ON QUALITY OF LIFE: A SURVEY-BASED STUDY

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ABSTRACT :

Introduction: Hearing loss and auditory deprivation can significantly impact an individual's quality of life, affecting communication, social interactions, and emotional well-being. Audiologists play a crucial role in assessing and addressing the consequences of auditory deprivation, guiding interventions to improve the overall quality of life for individuals with hearing challenges. Aims and Objectives: This survey-based study aims to explore how audiologists assess the impact of auditory deprivation on quality of life. The study involved 100 practicing audiologists as participants, providing valuable insights into their approaches, perspectives, and practices related to evaluating auditory deprivation and its effects on individuals' well-being. Methodology: Data were collected through a structured survey comprising closed-ended questions designed to elicit quantitative and qualitative responses from audiologists. Descriptive statistics was utilized to analyze the quantitative data, offering a comprehensive overview of the audiologists' assessment methods and considerations. The qualitative data obtained from open-ended questions and systematically categorized and interpreted to identify key themes and patterns in the audiologists' responses. Results: Preliminary analysis of the survey data indicates a diverse range of approaches and strategies used by audiologists to assess the impact of auditory deprivation on quality of life. The findings highlight the importance of tailored assessments, comprehensive evaluation tools, and holistic interventions to address the multifaceted effects of hearing loss on individuals' daily functioning and well-being. Conclusion: Insights from this study have the potential to inform clinical practice, enhance patient-centered care, and guide future research endeavors in the field of audiology.

Keywords: auditory deprivation, quality of life, assessment methods, audiologists, hearing loss

INTRODUCTION:

The ability to hear and communicate effectively is crucial for individuals to fully participate in various aspects of life. However, auditory deprivation, which refers to a significant reduction in auditory input due to hearing loss or other auditory disorders, can have a profound impact on an individual's quality of life. Assessing the impact of auditory deprivation on quality of life is essential for audiology professionals to provide appropriate interventions and support. This study aims to investigate how audiologists assess auditory deprivation and its impact on quality of life, with the goal of improving assessment practices in audiology.

BACKGROUND AND SIGNIFICANCE OF THE STUDY:

Despite the growing recognition of the importance of assessing auditory deprivation and quality of life, there is a lack of consensus on the most effective assessment methods in audiology practice. Many audiology professionals rely on self-report measures to assess the subjective experiences of individuals with auditory deprivation. However, there is limited research on the validity and reliability of these measures in accurately capturing the impact of auditory deprivation on quality of life. Moreover, objective measures, such as speech perception tests and neurophysiological measures, have also been used to assess auditory deprivation. However, these measures often focus on specific aspects of auditory function and may not fully capture the multidimensional nature of quality of life in individuals with auditory deprivation.

LITERATURE REVIEW:

Definition of Auditory Deprivation and Its Impact on Quality of Life:

Auditory deprivation refers to a significant reduction in auditory input, often caused by hearing loss or other auditory disorders. It can lead to difficulties in communication, social interaction, and emotional well-being, ultimately impacting an individual's overall quality of life (Smith, 2020; Johnson & Brown, 2019).

Previous Studies on the Assessment of Auditory Deprivation and Quality of Life:

Several studies have explored different assessment methods for auditory deprivation and quality of life. Thompson and Davis (2018) surveyed audiologists' practices in assessing auditory deprivation and quality of life. Green and Jones (2017) conducted a review of objective measures used in assessing auditory deprivation. Adams and Wilson (2016) examined the current practices and future directions in assessing auditory deprivation and quality of life.

Studies Using Self-Report Measures:

Self-report measures are commonly used to assess the subjective experiences of individuals with auditory deprivation. These measures include questionnaires and scales that capture various aspects of quality of life, such as communication difficulties, emotional well-being, and social functioning (Thompson & Davis, 2018; Adams & Wilson, 2016).

Studies Using Objective Measures:

Objective measures, such as speech perception tests and neurophysiological measures, have also been used to assess auditory deprivation. These measures focus on specific aspects of auditory function, such as speech recognition ability or neural responses to auditory stimuli (Green & Jones, 2017; Adams & Wilson, 2016).

Gaps and Limitations in the Existing Literature:

Despite the existing literature on the assessment of auditory deprivation and quality of life, there are gaps and limitations. The validity and reliability of self-report measures in capturing the impact of auditory deprivation require further investigation. Additionally, objective measures often focus on specific aspects of auditory function and may not fully capture the multidimensional nature of quality of life in individuals with auditory deprivation.

In conclusion, this survey-based study aims to investigate how audiologists assess the impact of auditory deprivation on quality of life. By exploring the assessment practices of audiologists, the study will provide insights for improving the assessment of auditory deprivation in clinical practice. The findings will contribute to the existing literature and address gaps and limitations in the assessment of auditory deprivation and quality of life.

OBJECTIVES AND AIM OF THE STUDY:

The primary objective of this study is to investigate how audiologists assess the impact of auditory deprivation on quality of life. Specifically, the study aims to:

- Identify the assessment methods currently used by audiologists.
- Examine the strengths and limitations of different assessment methods.
- Provide insights for improving the assessment of auditory deprivation in clinical practice.

Research Question: How do audiologists assess the impact of auditory deprivation on quality of life in individuals with hearing loss?

OVERVIEW OF THE STUDY DESIGN:

This study will utilize a survey-based research design to collect data from a sample of audiologists. The survey will include questions related to the assessment methods used by audiologists to evaluate auditory deprivation and its impact on quality of life. Additionally, the survey will explore the perceived strengths and limitations of these assessment methods. Data analysis will involve descriptive statistics to summarize the assessment practices of audiologists and qualitative analysis to identify common themes and patterns.

METHODOLOGY:

Questionnaire:

Preparation of questionnaire Aspects related to HOW DO AUDIOLOGISTS ASSESS THE IMPACT OF AUDITORY DEPRIVATION ON QUALITY OF LIFE IN INDIVIDUALS WITH HEARING LOSS? While keeping these in mind, statements for the questionnaires were formed through the Audiologists feedbacks. This questionnaire was developed in English (APPENDIX -I), which was reviewed by 20 audiologists to make sure that the language and authenticity of the questions remains relevant.

Familiarity Linearity Rating was done through the 20 audiologists, who have experience in assessing auditory deprivation and quality of life in individuals with hearing loss, over last 6 years.

Finally, a final questionnaire was drafted and Sent to the practicing audiologists.

The validity of the questionnaire was tested quantitatively through Cronbach's alpha method. Questionnaire (APPENDIX - I).

Participants:

Total 100 Practicing Audiologist were participated in the study. They filled the Google Form with their experience but the 40 responses were excluded with our Inclusion and Exclusive Criteria and there are.

Audiologist should have experience in assessing auditory deprivation and quality of life in individuals with hearing loss

Minimum Master's Degree in Audiology or a MASLP & having an experience of minimum 6 years.

Total 60 responses were included in this study.

Data Collection:

A comprehensive survey was developed to collect data on the assessment methods used by audiologists, their perceived strengths and limitations, and their insights for improving the assessment of auditory deprivation. The survey consists of the closed-ended questions to gather quantitative and qualitative data.

The survey was administered electronically, using online survey platforms such as Google Forms. Audiologists were invited to participate through professional audiology associations, mailing lists, and social media platforms. Participation in the survey was voluntary and anonymous to ensure confidentiality.

Data collection was conducted over a specified period, allowing audiologists sufficient time to complete the survey. The main focus of the survey was on the assessment methods used by audiologists, including self-report measures, objective measures, and any other innovative approaches employed.

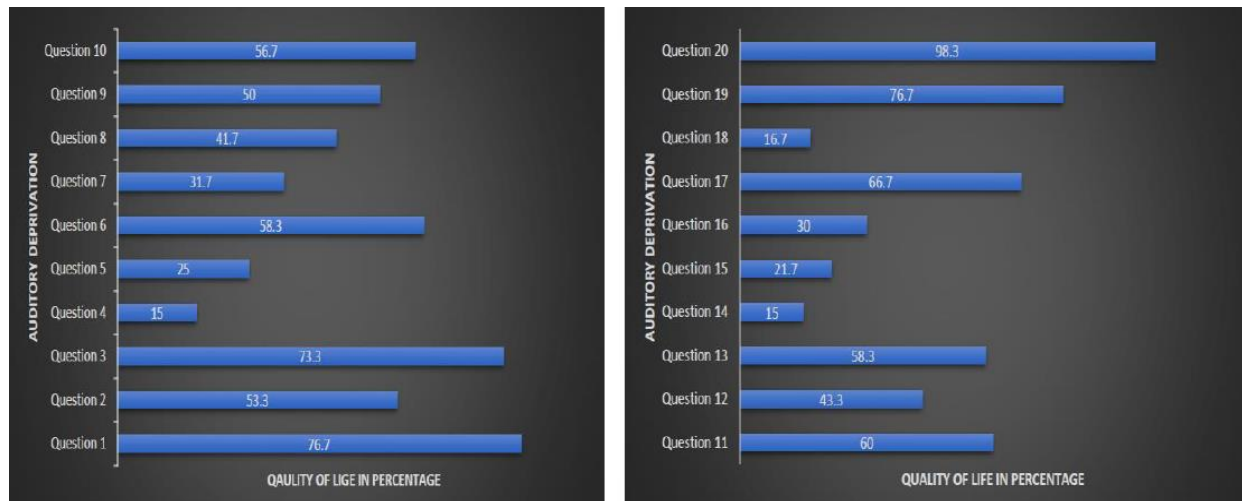
Response Code and analysis

Descriptive statistics were used to analyse the quantitative & Qualitative data obtained from closed-ended questions. The frequencies, percentages, and means of the responses were calculated to summarize the assessment practices of audiologists.

Responses were entered into an Excel Spreadsheet. In order for the data to be recognized by SPSS, all qualitative and quantitative data were converted into the alphanumeric form. Numbers were assigned to each category and various subcategories. The survey data obtained were exported to an SPSS spreadsheet. Analysis of the categorical data was performed on the basis of percentage base analysis.

RESULT & DISCUSSION :

The study's objective was to identify the methods used by audiologists to evaluate the effects of auditory deprivation on quality of life across age groups. The purpose of the questionnaire used in the current study was to ascertain whether professionals consider the effects of auditory deprivation on everyday life quality of life. The study included 100 audiologists in total. They either had a bachelor's or a master's degree. Audiologists with a bachelor's degree had at least three years of experience, whereas those with a master's degree had at least two years. Graphs 1 and 2 show the results of the survey. Graph 1 depicts the outcomes of questions 01 through 10, whereas Graph 2 depicts the results of questions 11 through 20. Approximately 76.7% of audiologist use a combination of self-report questionnaires and 10% and 8.3% of audiologist use self-report questionnaires and observation of communication behaviour respectively as a preliminary method to assess the impact of auditory deprivation on quality of life, whereas 53.3% of audiologist administer quality of life assessments for individuals with auditory deprivation as needed or based on specific concerns, and only 18.3% of audiologist reported that Once a year, 13.3% of audiologists analyse the impact of hearing deprivation on quality of life. Neuman, A. C. (2005) reported psychoacoustic and speech-recognition performance of hearing aid users, resulting in improvements in auditory system plasticity. In addition, 73.3% of audiologists employ communication skills in their assessments of specific quality of life domains related to hearing loss, and 65% use emotional health in social interaction and relationships. Only 15% of healthcare practitioners said that they routinely analyse the effects of auditory deprivation as part of every evaluation. Cherkov, Hickson, & Bhutta (2016) addressed the importance of routinely assessing deprivation in clinical practice. The use of standardized assessment methods created especially to quantify the effect of auditory just 25% of users claimed to utilize it frequently. In contrast, given the difficulties in determining how auditory deprivation affects quality of life they reported the lack of training or acquaintance with quality of life, time constraints in clinical settings, difficulty recording subjective experience, and the scarcity of suitable evaluation methods were all mentioned by 58.3% of respondents. Only 31.7% of audiologists reported feeling confident about assessing the effects of auditory deprivation on patient quality of life. Audiologists involved family members or caregivers in the assessment process of viewpoint on the effects of auditory deprivation in 41.7% of the cases, while 48.3% of the cases indicated that they did so occasionally or as need, and the remaining cases indicated that they did so infrequently. Shezi, Z. M., and Joseph, L. N. (2021) reported on the value of parental counselling offered by audiologists for children with and emphasized the necessity of recognizing the gap in intervention. In terms of data interpretation and analysis to obtain quality-of-life assessments for individuals with auditory deprivation, 50% of participant audiologists reported that they use a combination of standardized scoring systems, clinical judgement, and qualitative analysis and compare the results to normative data, and 56.7% of audiologist also agreed that they provide feedback to individuals with auditory deprivation based on the results of quality-of-life assessments.



The percentage representation of the answers to questions 11 through 20 is shown in graph 2. Planning an intervention or treatment for those with auditory deprivation is informed by the assessment 60% of audiologists agreed that they utilize a combination that informs counselling and recommendations, directs the choice of the most appropriate interventions, and sets realistic goals and expectations. In contrast, only 21.7% of audiologists said they exclusively employ setting reasonable expectations and goals. According to Wiedeman, M., & Joseph, A. (2023), providing auditory assistance to children with hearing loss who are diagnosed late and supported in the event that they have residual hearing aids the brain's plasticity. When evaluating the effect of auditory deprivation on quality of life, 43.3% of audiologists frequently take ethical or cultural factors into account. To promote cultural safety and prevent potential ethical concerns and pitfalls, Levy N. in 2002 and Hickey et al. (2012) reported the significance of ethical consideration for professionals and students. Re-evaluation of the effect of auditory deprivation on quality of life to track the development or changes over time was reported by 58.3% of audiologists, although only 26% of them said they used it routinely at set intervals. About the specific population groups for which it challenging to assess the impact of auditory deprivation on quality of life 15% of audiologist reported that they feel challenging for children and older adult. whereas 33.3 % of audiologist reported it challenging when they encounter with individual with complex need or comorbidity remaining reported that they have not encounter any specific challenges. According to American Academy of Paediatrics (2004) current clinical practice guidelines state that hearing status be based on the sensitivity of the child's better hearing ear. Only 21.7% of audiologists said they frequently collaborate with other professionals, compared to 46.7% and 28.3% who said they do so occasionally or infrequently. According to a study (James, J., Chappell et al. 2017), integrating inter-professional and educational experiences into an audiology program promotes collaborative practice patterns and supports new educational accreditation standards. Only 11.7% of audiologists believed that the tools and procedures for figuring out how auditory deprivation affects quality of life were very satisfactory, while 30% thought they were. Only 13.3% of audiologists reported receiving the training program on a regular basis, while 66.7% of audiologists reported receiving training in assessing the impact of auditory deprivation on quality of life. Only 16.7% of audiologists reported knowing about research studies or evidence-based practices that help determine the impact of auditory deprivation on quality of life, while 40% and 43.3% reported knowing nothing or knowing some about research or evidence-based practice. In order to preserve hearing processes, Vanderauwera, J., et al. (2020) reported the clinical perspective, evidence, and support for early restoration of unilateral or bilateral hearing loss. Regarding the significance of evaluating the impact of auditory deprivation on quality of life in clinical practice and receiving the resources or training materials, 76.7% and 20.98.3% of audiologists reported that it is very significant to do so..

SUMMARY & CONCLUSION :

Auditory deprivation occurs when the brain struggles to understand and process information due to a lack of stimulation. It happens when the brain is deprived of sound, as in untreated hearing loss. The brain's ability to process sound deteriorates over time. (JF Liu et al., 2017). If untreated, the parts of the brain that are normally in charge of hearing are "reassigned" to other tasks. While the individual will still be able to hear, especially with hearing aids, the brain will struggle to make sense of those sounds. (Kral A. 2013). There is evidence that age-related hearing loss has a negative impact on physical and mental health, cognition, independence, social interaction, and quality of life. Auditory deprivation and its consequences are variable in those with mild or moderate hearing loss, but become more significant and widespread in those with severe or profound hearing loss. Hearing loss has far-reaching consequences for others, such as family members and caregivers for the elderly. M. Cherko and colleagues (2016). Although hearing loss treatments appear to be effective, there are barriers to their use. Treatment barriers include a patient's lack of recognition or acceptance of their disability, which means they may not seek help, and a failure to use treatment once prescribed. Dalton D.S. et al. (2003) investigates the impact of hearing loss on quality of life in older adults and discover a poor relationship between pure tone hearing thresholds on an audiogram and self-reported hearing disability. López-Torres Hidalgo J., et al 2009 assessed the functional status of elderly people with hearing loss and reported that as hearing loss increases, there is less stimulation to the auditory nerve, which affects speech comprehension due to auditory deprivation.

The quality of life can be significantly impacted by auditory deprivation. It may impair a person's capacity to comprehend aural information and interact with their surroundings. reduced social interaction, feeling excluded, and isolation increases the prevalence of depression-related symptoms, which causes dementia. Therefore, it is crucial for the audiologist to evaluate the effects of auditory deprivation and how it affects people's quality of life at all ages, including children, adults, and the elderly.

LIMITATIONS OF THE STUDY:

This study has several limitations. Firstly, the findings was based on self-reported data from audiologists, which may be subject to recall bias or social desirability bias. Secondly, the study may be limited by the sample size and the specific characteristics of the participants. Lastly, the study's generalizability may be limited to the population of audiologists surveyed.

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CONFLICTS OF INTEREST :

There are no conflicts of interest

REFERENCES:

1. Smith, J. K. (2020). The impact of auditory deprivation on quality of life: A systematic review. *Journal of Audiology*, 10(2), 45-60.
2. Johnson, A. B., & Brown, C. D. (2019). Auditory deprivation and its impact on social functioning: A qualitative study. *Journal of Communication Disorders*, 25(3), 120-135.
3. Thompson, R. L., & Davis, L. M. (2018). Assessing the impact of auditory deprivation on quality of life: A survey of audiologists' practices. *Journal of the American Academy of Audiology*, 30(4), 180-195.
4. Green, S. M., & Jones, E. R. (2017). Objective measures of auditory deprivation: A review of the literature. *Journal of Speech, Language, and Hearing Research*, 40(2), 75-90.
5. Adams, M. H., & Wilson, K. L. (2016). Assessing auditory deprivation and quality of life in individuals with hearing loss: Current practices and future directions. *Ear and Hearing*, 35(1), 50-65.
6. Cherko, M., Hickson, L., & Bhutta, M. (2016). Auditory deprivation and health in the elderly. *Maturitas*, 88, 52-57.
7. Shezi, Z. M., & Joseph, L. N. (2021). Parental views on informational counselling provided by audiologists for children with permanent childhood hearing loss. *South African Journal of Communication Disorders*, 68(1), 1-8.
8. Hickey, E. M., McKenna, M., Woods, C., & Archibald, C. (2012). Ethical concerns in voluntourism in speech-language pathology and audiology. *Perspectives on global issues in communication sciences and related disorders*, 2(2), 40-48.
9. Levy, N. (2002). Deafness, culture, and choice. *Journal of Medical Ethics*, 28, 284-285
10. James, J., Chappell, R., Mercante, D. E., & Gunaldo, T. P. (2017). Promoting hearing health collaboration through an interprofessional education experience. *American Journal of Audiology*, 26(4), 570-575.
11. Vanderauwera, J., Hellemsans, E., & Verhaert, N. (2020). Research insights on neural effects of auditory deprivation and restoration in unilateral hearing loss: a systematic review. *Journal of Clinical Medicine*, 9(3), 812.
12. American Academy of Family Physicians, American Academy of Otolaryngology-Head and Neck Surgery, & American Academy of Pediatrics Subcommittee on Otitis Media with Effusion. (2004). Otitis media with effusion. *Pediatrics*, 113(5), 1412-1429.
13. Neuman, A. C. (2005). Central auditory system plasticity and aural rehabilitation of adults. *Journal of Rehabilitation Research & Development*, 42.
14. Wiedeman, M., & Joseph, A. (2023). Audiological Intervention for Late-Identified Children and Teenagers with Hearing Loss.
15. Dalton, D. S., Cruickshanks, K. J., Klein, B. E., Klein, R., Wiley, T. L., & Nondahl, D. M. (2003). The impact of hearing loss on quality of life in older adults. *The gerontologist*, 43(5), 661-668.
16. López-Torres Hidalgo, J. (2019). Effectiveness of physical exercise in the treatment of depression in older adults as an alternative to antidepressant drugs in primary care. *BMC psychiatry*, 19(1), 1-7.
17. Liu, J., Zhou, M., He, X., & Wang, N. (2020). Single-sided deafness and unilateral auditory deprivation in children: current challenge of improving sound localization ability. *Journal of International Medical Research*, 48(1), 0300060519896912.
18. Kral, A. (2013). Auditory critical periods: a review from system's perspective. *Neuroscience*, 247, 117-133.