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Socioemotional development in children and adolescents with hearing impairment: a systematic review.

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ADMINISTRATIVE INFORMATION

Support - Not applicable.

Review Stage at time of this submission - Completed but not published.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 01 March 2024 and was last updated on 01 March 2024.

INTRODUCTION

Review question / Objective What are the individual and contextual factors involved in social and emotional development in children and adolescents with hearing impairment?

Rationale Several factors play a relevant role in the socio-emotional development (SED) of children and adolescents with hearing impairment (HI). The empirical evidence, while controversial, underscores the importance of these factors. Few reviews, such as those by Batten et al. (2014) and Geh et al. (2021), have systematically analyzed which factors explain the variability of SED in these populations. One of these reviews pinpointed communicative competence, age, and greater educational integration between students with HI and their peers with typical hearing (TH) as crucial contributors to better SED outcomes. Furthermore, linguistic development may also be associated with SED in HI children and adolescents. However, most of the studies included in these reviews focused on social competence, leaving a

gap in our understanding of how these factors might influence the development of emotional competencies. The role of language age acquisition (e.g., signs, oral), cochlear implant age or time of use in explaining differences in SED among children and adolescents with HI remains unclear. This suggests a compelling need for further research. Differences in evidence could be explained by other personal and contextual factors, such as children's and parents' level of hearing impairment, the bonding, and language conditions in family or school contexts that have not been thoroughly explored in previous reviews.

Condition being studied Hearing impairment is any difficulty using the sense of hearing, a partial loss of hearing capacity (hypoacusis) or total hearing loss (Cophosis) that can significantly impact daily life. When the level of sound perception in one ear or both is greater than 20 dB, this condition can lead to the loss of ability to perceive speech sounds and the environment, making communication and interaction (WHO, 2021).

Socioemotional development (SED) refers to the processes of change in intrapersonal and interpersonal skills related to emotional recognition, regulation, and expression, as well as the establishment, development and maintenance of abilities to build healthy relationships with other people throughout the life cycle (Easterbrooks et al., 2012; Malti & Noam, 2016; R. A. Thompson & Virmani, 2012).

METHODS

Search strategy The search was filtered according to each database (i.e., year 2003-2023; full text; academic publications; Spanish, English or Portuguese language). The reviewers recorded information about the search monitor used, the date, the filters implemented, and the number of results. The search equation was: ("Hearing Impairment") OR ("Deaf") OR ("Hearing loss") OR ("Hearing Impaired") OR ("deafness")) AND (("social development") OR ("emotional development") OR ("socioemotional functioning") OR ("social skills") OR ("emotional skills") OR ("emotional intelligence") OR ("Emotional regulation") OR ("Psychosocial development")).

Participant or population Boys, girls, and adolescents between 6 and 17 years of age who present some degree of diagnosed hearing deficit (i.e., mild, moderate, severe, and profound), whether or not they use hearing aids or interventions such as cochlear implants or hearing aids and who are fluent in language oral, sign or both.

Intervention Not applicable.

Comparator Not applicable.

Study designs to be included Quantitative, qualitative and mixed design studies, with experimental or non-experimental cross-sectional or longitudinal designs, descriptive, comparative, correlational or causal in scope.

Eligibility criteria a) population between 6 and 17 years old with diagnosed hearing impairment; b) evaluation of at least one social and emotional development domain and some contextual or individual factor associated; c) quantitative, qualitative and mixed design studies, with experimental or non-experimental cross-sectional or longitudinal designs, descriptive, comparative, correlational or causal in scope; d) the measures could be from the participants or a third person (i.e., parents, teachers). Studies were excluded: a) participants have comorbid deficiencies (i.e.,

physical, mental, or cognitive impairments), b) studies published before the last 20 years, and c) bibliographic reviews, monographs, book chapters and grey literature.

Information sources Scopus, Dialnet, Scielo and Redalyc.

Main outcome(s) We found variability and overlap in the conceptualisation and taxonomy of socioemotional development (SED). The findings show that various contextual and individual factors promote SED in children and adolescents with hearing impairment. Linguistic/communicative skills, using cochlear implants moderated by age and implantation time, family dynamics and structure, and extracurricular activities are associated with socioemotional development in children and adolescents with hearing impairment. It is emphasized that although research advocates the analysis of social and emotional domains, the study of social domains predominates over emotional ones. It is concluded that the early acquisition of a language and the promotion of daily social interaction with peers or parents could make a positive difference in the socio-emotional development of this population.

Data management Three stages were followed to select the texts. First, the articles were divided into three sets. Each reviewer analyzed the fulfilment of the eligibility criteria based on the title and abstract. Second, each reviewer analyzed the articles preselected by the other reviewers. Third, the full texts were reviewed to verify compliance with the selection criteria and determine their final inclusion.

The information was coded in three stages: 1) one reviewer read each study in its entirety, extracted the information and entered it into a table according to the established coding; 2) two reviewers analysed each coded study for accuracy and consistency of content; Finally, 3) data from the studies were extracted into a matrix containing the following information: a) general information (year, language, country, etc.); b) type of design and measurement instruments; c) characteristics of the sample; d) results; and e) a score for methodological quality. Any disagreement was resolved by consensus between the reviewers in both the selection and coding stages.

Quality assessment / Risk of bias analysis To evaluate the methodological quality of the studies, we used the Mixed Methods Assessment Tool (MMAT) through five study categories: qualitative research, randomized controlled trials, non-randomized studies, quantitative descriptive

studies, and mixed methods studies (Hong et al., 2019).

Strategy of data synthesis A narrative synthesis of the evidence was applied following the steps proposed by Petticrew and Roberts (2008): 1) organize the description of the studies into logical categories, 2) analyze the findings within each of the categories, and 3) synthesize findings across all included studies. We could not perform a meta-analysis. This was due to the heterogeneity of the studies found.

Subgroup analysis Not applicable.

Sensitivity analysis Not applicable.

Language restriction English, Spanish and Portuguese.

Country(ies) involved Colombia.

Keywords Social development, emotional development, Social skills, Deafness.

Contributions of each author

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