

INPLASY

The benefits of early access to a signed language for deaf children

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ADMINISTRATIVE INFORMATION

Support - British Deaf Association.

Review Stage at time of this submission - Preliminary searches.

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 7 November 2024 and was last updated on 7 November 2024.

INTRODUCTION

Review question / Objective What is the evidence for the benefits of early access to a signed language on deaf children's linguistic, cognitive and socio-emotional development, educational attainment, and health and well-being?

Background Over 72 million people in the world today use over 300 different signed languages (National Geographic, undated). These are not visual versions of spoken languages but grammatically distinct, naturally occurring, generative, indigenous languages. Sign language use is closely allied with deaf cultural identity. Deaf culture emphasises the language rights, traditions, affiliations and communities associated with being a deaf signer, rather than seeing deafness as a deficit in hearing that requires rehabilitation. However, early access to a signed language for deaf children is not guaranteed or indeed common. In economically rich countries of the developed world, the provision of universal newborn hearing

screening has permitted the early identification of deafness in newborns in the first month of life and the provision of early intervention by 3 months old at the latest (JCIH, 2019). For many, this is seen as the gateway to the acceleration of spoken language acquisition through the provision of hearing technologies in the earliest stages of development. Equivalent emphasis on the potential of early identification for early access to signed language is rare by comparison. In the rest of the world where over two thirds of the population of deaf children reside (WHO, 2021), early access to a signed language is not common for different reasons. Identification of deafness remains 'late' by developed world standards, often at around 3 years of age, and for many, sign language is the only viable communication approach given restricted access to freely available hearing technologies.

Rationale Within this landscape of late or non-existent access to early signed language, the benefits of early access to a signed language for deaf children are little studied in comparison with

the impact of early access to sound, amplification and speech for the developing deaf child. Whether early access to a signed language is viewed in terms of first language or part of bilingual development with spoken language, a focus on the consequences of early access for later childhood and adulthood remains rare. This scoping review sets out to consider the scope and quality of the state of the evidence available for the benefits of early access to sign language for deaf children, summarising key findings in terms of linguistic, cognitive and socio-emotional development as well as educational attainment and health and well-being. By corollary, therefore, it includes evidence of the consequences of lack of access to a signed language as well as identifying the gaps in available evidence whether in terms of scope, study designs or results.

METHODS

Strategy of data synthesis Information sources: Research databases to be searched: PubMed, PsychInfo, ASSIA, Web of Science, OpenGrey, Cochrane Library and Prospero. Forward citation sources from reference lists of identified articles will be searched. Index of published articles in the following key journals will be searched for completeness: Journal of Deaf Studies and Deaf Education, Deafness and Education International, Sign Language Studies, American Annals of the Deaf. Unpublished theses are excluded.

The search of information sources will be conducted using free text key word search terms and their synonyms with database-appropriate syntax, parentheses, truncation, and Boolean operators (and, or, not) within the parameters set in the eligibility criteria. For example: 'Sign Lang* AND Early Child*'.

Eligibility criteria Participant or population:

The review concerns the benefits of early access to a signed language for children who are deaf in terms of both early childhood development and implications for later childhood and adulthood. Not all deaf children will have access to a signed language in the early years. Some deaf people who do not grow up using a signed language nonetheless are deaf signers in later childhood/adult life. Deaf signers in adulthood may be monolingual in a signed language, bi/multi-lingual in more than one signed language; bi/multi-lingual in signed and spoken/written languages. The population(s) of relevance to this scoping study are therefore multiple and complex for these cultural-linguistic reasons but also for the same intersecting identity characteristics of all populations including, but not confined to, gender,

sexuality, ethnicity, disability, culture of country of origin. We define 'early access' as birth to 5 years in line with international conventions on early childhood development and deaf children. We define 'deaf' as referring to all types and degrees of deafness, rather than to any given sub population. We define 'signed language' as referring to a fully grammatical language of whatever country e.g. South African Sign language (SASL) whether legally formally recognised or not. It does not refer to sign systems such as Makaton nor to visual versions of the spoken word such as Sign Supported English.

Study designs to be included:

Provided inclusion criteria are met: for primary research studies, all research designs are included as well as meta-analyses and meta-syntheses. Narrative, systematic and scoping reviews are included. Relevant non-empirical items derived from grey literature that may cite secondary sources are included.

Eligibility criteria:

The following are all eligible for inclusion:

1. Primary research including scholarly journal publications, book chapters, books and similar including pre-prints
2. Secondary data analysis of one or more primary sources including those derived from data sets that might include sign language users
3. Evidence based meta-analyses and meta-syntheses
4. Grey literature including regulatory/government reports, policy documents, legislation, professional guidance, information sources for parents of deaf children
5. Item is published between 2000 and 2024. This covers the universal newborn hearing screening era. [Where a key item is published outside of this time frame that has been seminal in the field, exception will be made]
6. Item concerns access to signed language for children 5 years and under, whether exclusively or as an element of a more general focus on early language for deaf children.
7. Item concerns the health and wellbeing of deaf young people and adults AND the sample population includes those who use a signed language.
8. Items concerning the benefits and gains of deaf culture and sign language if connected clearly with early access to sign language
9. Item is available in written English, written French, written German, BSL, ASL, Auslan, Irish Sign Language or International Sign

Exclusion criteria are:

1. Falls outside the inclusion criteria

2. Item's primary focus is spoken language access or development with minimal reference to early access to signed language
3. Item is polemic or unevicenced opinion without reference to research
4. Primary focus is on the linguistics of sign language in children or adults
5. Items concerned with the impact on parents of raising a deaf child
6. Items focussed on the aetiology of deafness in children
7. Items focussed on social, attitudinal and disabling barriers experienced by deaf signers
8. Items focussed on the adaptation or translation of psychometric tests into signed language
9. Items concerning deaf culture and deaf perspectives separate from the implications of early access to a signed language
10. Items focussed on educational instruction methods for deaf children.

Source of evidence screening and selection

Search strategy: Methods are informed by the nine-step scoping review framework (Peters et al., 2020) and results reported following the PRISMA Extension for Scoping Reviews (PRISMA-ScR) (Tricco et al., 2018). The online review management system Rayyan will be used to assist with the data management and review process. Title and abstract screening will be undertaken by two people with conflicts resolved by a third, followed by full text screening undertaken by the same two with conflicts resolved by a third.

Data management Phase one screening of title and abstract will be carried out within each searchable data base's software with records of included items exported to Rayyan. Items identified for inclusion at this stage through journal-specific searching and forward searching of reference lists will also be exported to Rayyan. Phase two full text eligibility screening will be managed within Rayyan resulting in final included items. Data charting will use a bespoke template in Excel informed by Joanna Briggs Institute recommended guidelines. PRISMA ScR guidelines for final reporting of the screening, eligibility and inclusion stages will be followed.

Reporting results / Analysis of the evidence A narrative synthesis will be presented following a thematic structure generated by the evidence in the items reviewed and in line with the aims and objectives of the scoping review. As a scoping review, the quality assessment analysis will be confined to observations on aspects of research design and limitations of results informed by

categories of interest from the CASP suite of appraisal tools.

Presentation of the results The scoping review findings will be published in a peer reviewed academic journal.

Language restriction Publications in written English, French, German, and British Sign Language, American Sign Language, Auslan, Irish Sign Language and International Sign will be included in the review.

Country(ies) involved United Kingdom.

Other relevant information This scoping review is commissioned and funded by the British Deaf Association. The views expressed and conclusions reached are those of the authors and not necessarily those of the commissioner. The resulting scoping review publication is independent of the funder.

Keywords Deaf; Sign Language; Early childhood development.

Dissemination plans In addition to the peer reviewed journal article, results will be disseminated through conference presentations in English and BSL. Short evidence briefings will be produced from the review for internal use by the British Deaf Association.

Contributions of each author

Author 1 - Alys Young - Alys Young designed the study, drafted the protocol, will undertake first stage and second stage screening, co-construction of the synthesis framework and co-production and publication of all outputs including some lead publications.

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Author 2 - Katherine Rogers - Katherine Rogers reviewed the protocol, will undertake first stage and second stage screening, co-construction of the synthesis framework and co-production and publication of all outputs including some lead publications.

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Author 3 - Unknown unknown - Author 3 when appointed will undertake conflict resolution at abstract screening and full text screening and contribute to data synthesis and production of primary outputs.