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Adults' with hearing loss perceived listening ability in daily communication: protocol for a systematic review and qualitative meta-synthesis

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ABSTRACT

Introduction Understanding how adults with hearing loss perceive their abilities when listening in daily communication situations is vital to understanding the functional listening challenges associated with hearing loss. The aim of this study is to explore how adults with hearing loss describe their own experiences of the processes, behaviours and components of listening in real-world communication through secondary analysis of published qualitative data.

Methods and analysis A systematic review and thematic meta-synthesis of qualitative research studies and qualitative components of mixed-methods studies will be conducted. Studies published in English will be identified through searching Medline, PsychInfo, Web of Science, Embase and Google Scholar databases from inception to November 2021. Handsearching of the included studies' reference lists will be completed. Included articles will be assessed for methodological quality using the Critical Appraisal Skills checklist for qualitative studies. Thematic synthesis will proceed as follows: (1) line-by-line coding to label concepts present in the 'results' or 'findings' section(s) of the included studies; (2) grouping of similar codes into descriptive themes; (3) development of higher level analytic themes to develop a new interpretation of the included studies' findings. The Grading of Recommendations Assessment, Development and Evaluation (GRADE) Confidence in the Evidence from Reviews of QUALitative (CerQUAL) research approach will be used to establish the degree of confidence that may be placed in synthesis findings and results will be reported alongside the synthesis. Two reviewers will independently undertake screening for eligibility, data extraction and quality appraisal, analysis and GRADE-CERQual assessments. Discrepancies will be resolved through discussion.

Ethics and dissemination As secondary data analysis of the published literature, ethical approval is not required. The results will be disseminated in peer-reviewed journals, conference presentations and other research and clinical meetings. This protocol is registered with PROSPERO prospective database of systematic review.

PROSPERO registration number CRD42020213389.

Strengths and limitations of this study

► This protocol is based on the Preferred Reporting Items for Systematic Review and Meta-Analysis-Protocols (PRISMA-P) guidelines.
► This review includes an assessment of evidence quality that utilises a Grading of Recommendations Assessment, Development and Evaluation (GRADE) based tool developed specifically for qualitative systematic reviews and syntheses, the GRADE CERQual (Confidence in the Evidence from Reviews of Qualitative Research) approach.
► Patient and public involvement will ensure that findings are relevant to adults with hearing loss and facilitate dissemination to stakeholders.
► A consensus-based approach to analysis will ensure shared accountability for interpretative decisions, enhancing the rigour and trustworthiness of the findings.

century and there is a substantive literature exploring its conceptualisation and measurement from multiple perspectives.[2] Listening has been explored extensively in an educational context; in second-language acquisition; in organisational, cultural and relational and functional contexts and in specific groups and populations.[3–7] This siloed approach has had implications for how listening has been conceptualised and measured.

In undertaking inquiries into the nature of listening, including its processes and components, qualitative research has played a pivotal role. Qualitative research methodology may be considered critical for understanding the full experience of listening as these methods provide a means of comprehending listening in a holistic yet nuanced way, offering an alternative perspective to more positivist or interpretivist approaches.[7] For example, grounded theory methodology has been used to explore the relational nature of listening and a hermeneutic perspective

INTRODUCTION

Listening is a complex, multidimensional construct core to communicative competency.[1] It has been a focus of inquiry since the mid-20th

has been applied to develop a model of the listening process that highlights the role of choice.[6 8] Qualitative methods have also been used to explore how individuals characterise effective listening and to develop conceptual frameworks to support the development of measurement instruments.[9–12]

Within listening research, communicative competence, of which listening is a key component, has been explored in populations of individuals with communication disorders.[13 14] However, with the exception of musical listening and listening-related effort and fatigue, few qualitative studies have been found in the audiology literature that explicitly seek to examine the processes of listening for daily communication as reported by adults with hearing loss.[15–17] Rather, qualitative studies in audiology and hearing research have focused generally on the psychosocial sequelae arising from living with a significant hearing loss. For example, studies in the literature have reported on hearing help seeking, device benefit, social participation and social isolation, stigma and quality of life.[18–24]

A richer understanding of how adults with hearing loss experience listening for communicative purposes has the potential to benefit both research and clinical practice. For example, insights mined from first-hand accounts could be used to develop understanding of the ways in which people with hearing loss self-monitor and report on their listening abilities. Such insights may help identify those cognitive processes associated with listening that are perceived by the listener, or communication partner or both, thereby supporting the development of a conceptual framework for measurement of functional listening in hearing loss.[25 26] Accounts of the lived experience of listening could help specify targets for clinical assessment, guide intervention and ensure representation of the client's own perspective in clinical research. To our knowledge, there have been no comprehensive syntheses of how adults with hearing loss describe their perceived listening ability in communicative contexts. The proposed systematic review and meta-synthesis of qualitative research data aims to help address this gap.

METHODS
This protocol was developed using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Protocols checklist, the Joanna Briggs Institute guidance for systematic reviews of qualitative evidence,[27] and the GRADE-CERQual recommendations.[27–29] The protocol was registered with PROSPERO International Prospective Register of Systematic Reviews in October 2020 and is available online from https://wwwcrdyork-acuk/prospero/. This study will run from September 2020 until February 2022.

Search strategy
A search strategy was developed in Medline (Ovid) using Medical Subject Heading (MeSH) keywords, the National Library of Medicine (NLM) controlled vocabulary used to describe the subject content of journal articles for MEDLINE, and their synonyms. Search terms were selected based on the reviewers' knowledge of the field and the University of Texas search filter for qualitative studies. The strategy was developed with support from an information specialist (JvB) and reviewed by members of the study team (SEH and KN). Pilot searches confirmed the sensitivity and specificity of the searches. The Medline search was translated and the following additional databases searched from inception to November 2021: PsycInfo (Ovid), Web of Science, Embase (Ovid) and Google Scholar.[30] The first 200 records were be extracted from Google Scholar.[30–32] The Medline search strategy will be shared in full in any publications. In addition to electronic database searching, the reference lists and citations of included studies will be hand searched to locate additional articles. The Medline search strategy is presented in online supplemental file 1.

Eligibility criteria
Types of studies
Eligible studies will be English-language, peer-reviewed manuscripts of primary studies that use qualitative or mixed methods (ie, studies must have a qualitative component) to report first-hand accounts of listening and/or communication in hearing loss. Quantitative studies, editorials, opinions and letters will be excluded. No date limit will be applied. Non-English studies will be excluded due to resource limitations.

Types of participants
Eligible studies include those studies whose participants were adults (≥18 years of age) with a diagnosis of hearing loss of any severity, any type and any aetiology. Studies reporting on children will be excluded.

Phenomenon of interest
The phenomenon of interest for this review is adults' with hearing loss experiences of listening for communication, including their understanding of the components, processes and strategies used when engaged in listening for a communicative purpose. Studies reporting on the activity and participation limitations of living with hearing loss (including accounts of listening effort and fatigue, emotional and psychosocial consequences) will be excluded.

Context
No limitations on setting, geographic location will be applied. Studies reporting on the experiences of members of Deaf communities who use sign language as their primary mode of communication will be excluded on the basis that listening is not a primary requirement for communication.

Identification and selection of studies
The results of electronic database searching will be uploaded to Endnote (V.9.3, Clarivate Analytics) where duplicate records will be removed. Deduplication will be

repeated in Covidence (www.covidence.org), web-based systematic review software, to ensure all duplicate records are removed before proceeding to title and abstract screening, followed by full-text screening. Two reviewers (KN and SEH) will independently screen all records. Reasons for exclusion will be documented at the full-text screening stage. Discrepancies will be resolved via discussions. If consensus cannot be reached, a third reviewer who is also a member of the study team will be consulted to achieve a consensus-based decision on whether the record should be retained or excluded. The results of screening will be recorded in a PRISMA flowchart.

Assessment of methodological quality of included studies

The Critical Appraisal Skills Programme (CASP) checklist for qualitative research will be used to assess the methodological quality of the included studies.[33] To aid the summation of results, the results for each question for each of the included studies will be presented in tabular form. Two reviewers will independently appraise the methodological quality for all of the included studies. Differences will be resolved through discussion, involving a third reviewer if needed to reach agreement. Percentage agreement, Cohen's kappa (κ), as a measure of agreement adjusted for chance, and an intraclass correlation coefficient will be calculated to establish inter-rater agreement and reliability.[34 35]

Data extraction

Information relating to the study design of each included article will be extracted using Covidence and presented in tabular format. Data extracted will include author, year of publication, study aims and objectives, population, setting, country, phenomena of interest, methodological approach, methods of data collection (eg, semi-structured interviews, focus groups) and all text included in the findings/results sections of the included articles.

Data synthesis

The synthesis will be conducted according to principles of thematic synthesis and an epistemological orientation consistent with constructivism.[36 37] Thematic synthesis, as a form of meta-synthesis, seeks to integrate the findings from primary qualitative studies to generate new interpretations, explanations or hypotheses consistent with the focus of the review. Thematic synthesis has its origins in thematic analysis, meta-ethnography and draws on principles and practices commonly used in grounded theory (eg, axial coding, constant comparative method).[36–39] Its selection as the preferred method of analysis for this review relates to its use of inductive coding and the method's capability to synthesise findings to produce new interpretations and explanations.

The included studies will be uploaded to NVivo (V.1.3), qualitative data analysis software, for analysis of the study findings. Consistent with Thomas and Harden's description of the method, all the text labelled as 'results' or 'findings', including supplementary material, will be

analysed.[37] The findings from each study will be read multiple times to immerse the reviewer in the accounts before undertaking thematic synthesis. Thematic synthesis involves three stages of analysis. First, coding will proceed line-by-line to label concepts presented in the findings. Line-by-line coding enables the translation of concepts across the included studies, one of the key functions of thematic synthesis. The initial codes will be compared across studies to explore patterns in the data. Similar codes will be grouped into descriptive themes within a hierarchical framework. Finally, higher level analytic themes will be developed from the descriptive themes. The purpose of this phase is to develop a new interpretation or explanation of the included studies' findings. 'Going beyond' the content of the original studies may be considered a central characteristic of thematic synthesis as it allows the reviewers to explore the data in relation to the review question.[37] The descriptive themes from all of the included studies will be explored and woven together as analytic themes, presenting a rich description of the phenomenon on interest. Where possible, stratification of findings according to degree of hearing loss and participant age and gender will be undertaken. The analytic themes will be presented as a series of findings and will be supported by narrative accounts, quotes, tables and data visualisations. To enhance rigour, line-by-line coding will be undertaken by one reviewer and codes checked by a second reviewer. Disparities or discrepancies in coding will be resolved through discussion. A consensus-based approach will then be used to develop the descriptive and analytical themes. Coding and analytical memos will be used to document coding decisions, including a rationale, and reflexive memos will be written independently by each reviewer to document their engagement with analytical process.

Assessment of confidence in the evidence

The Confidence in the Evidence from Reviews of QUALitative research (GRADE-CERQual) approach will be used to establish the degree of confidence that may be placed in the findings from this systematic review and qualitative synthesis.[29] The GRADE-CERQual approach aims to assess the confidence in individual review findings through appraisal of the methodological limitations of the included studies, coherence (ie, the fit between primary data and the review finding), the adequacy of the data and relevance (ie, the extent to which data from primary studies supporting a review finding are applicable to the context specified in the review question). Each theme will be assessed using the CERQual approach and any concerns with methods, coherence adequacy, or relevance will be documented.[40–43] An overall level of confidence, ranging from high, moderate, low or very low, will be assigned per theme. Assessment results will be presented, including an explanation of the confidence rating, in a summary of qualitative findings table.[44]

The GRADE-CERQual approach was selected as the preferred method to establish the quality of the evidence

due to its specific focus on qualitative research, its consideration of multiple interdependent components when assessing confidence of the evidence and its congruence with other, well-established GRADE approaches used frequently to appraise the quality of evidence reported in systematic reviews in hearing science.[45–47]

Patient and public involvement

A consumer/community partner (AS) who is a member of the review team will review and provide critical feedback on the findings at each stage of the review. They will be involved in developing a dissemination strategy for the review findings, including the coproduction of a lay summary, which will be shared with adults with hearing loss via multiple media. Consumer and community involvement in the review will be documented using the Guidance for Reporting Involvement of Patients and the Public -2 (GRIPP-2) checklist.[48]

Ethics and dissemination

External ethical approval is not required as this review is a retrospective review, which is undertaking secondary analysis of publicly available primary data. The review findings will be disseminated via publication in a peer-reviewed manuscript, conference symposia and conference presentations. A dissemination strategy to ensure that the review findings reach relevant stakeholders will be coproduced.

DISCUSSION

This synthesis will establish what is known about the components and processes of listening for communication as they are experienced and understood by adults with hearing loss.

Significance and impact of this review

In the published literature, qualitative inquiry in hearing science has focused mainly on the social, cultural, psychological and emotional impacts of hearing loss.[49] Few qualitative studies have explored the attributes and behaviours of listening as experienced and reported by individuals with hearing loss. This review represents a novel approach to the study of listening in hearing loss. As a thematic synthesis and interpretation of primary studies, this study will contribute findings that add breadth and depth to current conceptualisations of listening and communication processes when a hearing loss is present.

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