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**Title.** Perspectives on mental health screening in the audiology setting: A focus group study involving clinical and non-clinical staff.

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### **ABSTRACT**

**Purpose:** Audiology clinical guidelines recommend the use of mental health screening tools however, they remain underutilised in clinical practice. As such, psychological concerns are frequently undetected in adults with hearing loss. This study aimed to better understand audiology clinic staff's perspectives (including audiologists, audiometrists, reception staff, and clinic managers) on how to improve detection of poor mental health by (i) exploring the

role of audiology clinic staff in detecting psychological concerns in adults with hearing loss, and ;(ii) investigating the appropriateness, acceptability and usability of several screening tools in an audiology setting.

**Method:** Eleven audiology clinic staff ( $M_{age} = 33.9 \pm 7.3$ , range 25 to 51 years) participated in a semi-structured focus group. First, participants discussed the role of audiology clinic staff in detecting psychological difficulties in adults with hearing loss, including current practices and needs for improving practices. Second, participants discussed the appropriateness, acceptability and usability of nine standardised mental health screening tools commonly used in wider healthcare settings.

**Results:** Audiology clinic staff described their role in being aware of, and detecting, psychological difficulties, as well as their part in promoting an understanding of the link between hearing loss and mental health. Participants described the need to provide support following detection, and highlighted barriers to fulfilling these roles. The use of mental health screening tools was considered to be client and context specific. The language used within the screener was identified as an important factor for its acceptability by audiology clinic staff.

**Conclusion:** Audiology clinic staff acknowledged that they have an important role to play in detection of psychological difficulties, and the core barriers to using screening tools. Future research may explore the possibility of developing a mental health screening tool specific to the unique experiences of adults with comorbid hearing loss and mental health concerns.

## INTRODUCTION

Mental wellbeing has frequently been conceptualized as a single continuum, with positive mental health (or psychological wellbeing) at one end of the spectrum, to mental illness at the other. Two continua models (Westerhof & Keyes, 2010) provide an alternative and increasingly influential view, which posits that mental illness and positive mental health reflect independent continua. In such dual-continua models, positive mental health (also referred to as psychological wellbeing) and mental illness are considered related but distinct dimensions (reviewed in Iasiello et al, 2020). Delineating mental illness from positive mental health in this way accounts for those individuals who (i) live with mental illness yet exhibit positive mental health, or (ii) do not meet the criteria for a diagnostic mental illness yet experience poor psychological wellbeing. Reframing our understanding of mental health in the context of audiological services allows clinicians to identify and support those adults with hearing loss with clear diagnosable mental health conditions, but also acknowledges the importance of identifying those experiencing poor psychological wellbeing who are vulnerable to future mental ill-health (Iasiello et al, 2020).

Hearing loss is a common chronic health condition, affecting approximately one third of people over the age of 65 (World Health Organisation, 2020). Importantly, hearing loss is a significant risk factor for reporting signs and symptoms of poor mental health compared to those without hearing loss (Bigelow et al., 2020). Further, those with more severe hearing loss and faster onset are at the greatest risk for negative impacts on mental health (Brodie et al., 2018). Hearing loss can cause increased frustration, embarrassment, grief, and lower levels of self-esteem (Tambs, 2004; Vas et al., 2017). For others, hearing loss may negatively affect their self-concept, especially due to perceived stigma related to aging (Wallhagen, 2010). Social isolation and loneliness also commonly co-occur due to hearing loss impacting on an individual's ability to effectively communicate and relate to others (Applebaum et al., 2019; Shukla et al., 2020). Beyond experiencing poor psychological wellbeing, hearing loss is also a significant risk factor for developing a mental illness (especially anxiety and depression) (Jayakody et al., 2018; Keidser & Seeto, 2017; Lawrence et al., 2020; Pronk et al., 2013).

Available evidence suggests that only one-third of people living with a mental illness access treatment (Andrews et al., 2000; Thornicroft, 2007). Even fewer access support for poor psychological well-being, such as loneliness (Kharicha et al., 2017; Oliver et al., 2005; Mental Health Foundation, 2010; Wellstead & Norriss, 2014), which is a significant predictor for the development of mental illnesses such as depression (Jeuring et al., 2018). Untreated mental illness and psychological difficulties incur major economic costs and significantly impact individual's overall quality of life (Hilton et al., 2010; Laplagne et al., 2007). Even without diagnosed mental illness, those with hearing loss demonstrate as much as an 80% increase in reliance on formal (*e.g.*, community support services) and informal supports (*e.g.*, non-spouse family/friend) (Brodie et al., 2018; Schneider et al., 2010).

However, difficulty comes in effectively identifying individuals with poor mental health. Given what is known about the effectiveness of early detection and intervention for improving mental health outcomes (Halfin, 2007; Reynolds et al., 2012), understanding why mental health may go undetected and unsupported in the audiology clinic setting is important. There are several known barriers to mental health detection from both the client and health practitioner's perspective. For clients, barriers may include perceived stigma around disclosing mental health concerns to non-mental health specialists, or difficulty identifying or acknowledging symptoms due to limited or misinformed mental health knowledge (McCauley et al., 2019; Parker et al., 2020; Stith, 2013). For healthcare professionals, a lack of mental health training, fear of offending the client, and time constraints have been cited as some of the most significant barriers (McCauley et al., 2019; Parker et al., 2020; Stith, 2013). However, the issue with detection likely starts before an individual even enters a healthcare service. Indeed, for many individuals the pathway for accessing supports is unclear (Nakash et al., 2019).

The recent “No Wrong Door” initiative was created to support people in the community to navigate healthcare services and seek support for psychological difficulties (South Western Sydney Primary Health Network, 2020). The “No Wrong Door” approach means that every “door” in the health service system should be the “right door” for people living with poor mental health, whether this is detected or observed, discussed and perhaps even managed, with the service able to act as a stepping stone to accessing a range of services beyond the initial point of entry. This approach commits all health partners to respond to an individual’s psychological needs either through providing direct services, or linkage and case coordination, rather than ignoring signs of distress, or sending a person from one agency to another.

In line with the World Health Organization's International Classification of Functioning, Disability and Health (Meyer et al., 2016), during audiological rehabilitation audiologists generally enquire about how their client’s hearing loss impacts upon their life (*e.g.*, activities and social interactions). These conversations provide an opportunity for audiologists to recognise and detect symptoms of mental illness or poor psychological wellbeing. In addition to medical practitioners and mental health practitioners (*i.e.*, psychologists and psychiatrists), there is potential for audiologists to play an important role in identifying psychological difficulties in adults with hearing loss, and subsequently providing resources for support services and referrals to specialists.

A vital first step in the delivery of psychological support is the ability to detect a need for support. Screening tools are commonly used to aid the detection of poor psychological wellbeing and symptoms of mental illness (National Institute for Clinical Excellence, 2004; Olariu et al., 2015; Pignone et al., 2002; Richardson & Puskar 2012; Siu et al., 2016 ). While there are no universal practice guidelines for audiologists on a global level, many clinicians look to the American Speech-Language-Hearing Association for guidance. Use of screening tools by audiologists to assist with psychological symptom identification is clearly supported by the American Speech-Language-Hearing Association, as their scope of practice documentation states that administration and interpretation of diagnostic screening includes “measures of mental health” (American Speech-Language-Hearing Association, 2018). Yet, research suggests that screening tools are rarely used in audiological clinical practice (Bennett et al., 2020). In a recent study, 83 Australia-based audiologists were provided with three case vignettes of older adults with hearing loss who were experiencing symptoms consistent with either depression or grief (Bennett et al., 2020). Only one of the 83 audiologists described the use of mental health screening tools to assist with symptom identification in these cases when describing their usual course of action. This situation is possibly due to the lack of guidance relating to which screening measures might be appropriate for clinical use by audiologists.

Though many mental health screening tools exist, their use by audiologists and in populations of adults with hearing loss has not been formally investigated. Although some measures of depression and anxiety have been used in populations of adults with hearing impairment for research purposes (Bucks et al., 2016; Jayakody et al., 2018), some suggest that not all of these may be appropriate for use in the clinical setting or by professionals not trained in psychotherapeutic approaches, due to the negative or jargonistic language used (Hammond, 2004; Jongenelis et al., 2007). As such, further research is needed to understand which, if any, existing mental health screening tools are appropriate for use in the audiology setting to support adults with hearing loss.

To successfully implement new processes in a primary care setting, it is vital to integrate perspectives from both clinical and support staff, such as reception staff and clinic managers (Lau et al., 2016; Webb et al., 2018). Support staff, especially clinic managers, often have a better understanding of how to best implement process changes into practice than clinicians (Lau et al., 2016). Clinic managers also play a role in providing ongoing training and support for new processes and thus are vital stakeholders when designing clinical interventions. Furthermore, changes to clinic procedures can often affect the daily workflow processes of reception staff and potentially their interaction with clients. Reception staff are often the main “interface” between clients and clinicians, and in many general practice (family physician) settings, are the ones who primarily administer screening tools to clients ahead of their appointments (Webb et al., 2018). With this considered, the present study included perspectives from “audiology clinic staff” including audiologists, audiometrists, reception staff and clinic managers.

The aims of this study were two-fold:

- (i) To explore the role of audiology clinic staff in detecting poor mental health (either mental illness or poor psychological wellbeing) in adults with hearing loss, how they currently achieve this, and what they need to be better equipped for this role, and;
- (ii) To explore the perceived appropriateness, acceptability and usability of selected screening tools in the audiology setting as perceived by audiology clinic staff.

## **METHOD**

In conducting this study, we first needed to identify currently available evidence-based questionnaires used to screen for poor psychological wellbeing or mental illness that may be appropriate for use in the audiology setting. Thus, this project was conducted across two phases: (1) identification of potential mental health screening tools, and (2) focus groups with audiology clinic staff (addressing the studies’ aims).

### **Phase One: Identification and selection of potential screening tools**

We first reviewed the broader literature to identify mental health screening measures. Google Scholar was used to identify potential screening tools using the search terms *mental health, depression, anxiety, loneliness, social isolation* in conjunction with the terms *screeener, questionnaire, or survey*. For example, “*depression questionnaire*”, *depression screeener*” and “*depression survey*”. These terms were selected as they refer to the most common psychological well-being concerns described by adults with hearing loss (Vas, 2017). Snowballing was used to search for original screeners within studies and reviews.

As the aim of the study was to review screening tools that could potentially be used by audiologists in their clinical practice, the following criteria were provided:

- Available in English;
- Relatively brief (*i.e.*, no longer than 15 items);
- Valid and reliable screeners for either depression, anxiety, loneliness or social isolation;
- Freely available and easily accessible to clinicians, and;
- Designed to be used (or shown to be used) by those who are not specialists in mental health.

Our search identified 42 unique screening measures (*i.e.*, not including multiple alternate/short forms of the same measure), of which 24 were excluded (See Figure 1 for exclusions flowchart). Most mental health screening tools were excluded due to having too many items, or because they were unable to be freely or easily accessed online. Some tools were excluded for failing to meet more than one criteria.

Data were extracted and tabulated for each of the 18 screening tools by two members of the research team (SD & I.K-F) including: the name of the screening tool, alternative names/abbreviations, number of items, purpose of the screening tool as defined by the original authors, measurement scope, availability of shorter versions, time frame of the questions (*e.g.*, “in the past 2 weeks...”), response categories (*i.e.*, the kind of scale that was used), score range, and recommended cut offs. Once tabulated, these 18 screening tools were cross-checked by members of the research team (I.K-F, S.D & R.B) against the inclusion/exclusion criteria to ensure their appropriateness for selection.

Members of the research team (I.K-F, S.D & R.B) were advised by three clinical psychologists in selecting the final tools to be included in the focus group discussions. Clinical psychologists were included to provide input on the tools that were most used in Australian practice. Consequently, nine screening tools were selected for the study, ensuring that there were no more than three screening tools per category (*i.e.*, combined anxiety and depression, depression, anxiety, social isolation, and loneliness) to reduce participant burden. The final nine measures included two that screened for both anxiety and depression [Patient Health Questionnaire-4: PHQ-4 (Kroenke et al., 2009); Hospital Anxiety Depression

Scale: HADS (Zigmond & Snaith, 1983)], three for depression [Patient Health Questionnaire-9: PHQ-9 (Spitzer et al., 1999); Kessler Psychological Distress Scale: K10 (Kessler et al., 2003); Geriatric Depression Scale: GDS- Short Form (Sheikh & Yesavage, 1986)], one for anxiety [Generalized Anxiety Disorder-7: GAD-7 (Spitzer et al., 2006)], one for social isolation [Cohen's Social Network Index: SNI (Cohen et al., 1997)], and two for loneliness [Three-Item Loneliness Scale (Hughes et al., 2004), and DeJong Gierveld Loneliness Scale-11 (De Jong-Gierveld & Kamphuls, 1985)]. See Supplemental 3 for further detail.

### **Phase Two: Focus groups with clinic staff**

This phase aimed to canvas the views of audiology clinic staff regarding (i) the role of audiologists in detecting poor mental health, and (ii) existing screening measures and their applicability for use within the audiology setting.

#### ***Participants***

Focus groups involved staff across different roles in the audiology clinic setting as research has identified the importance of including relevant stakeholder groups when scoping clinical intervention design and development (Ekberg et al., 2020). Convenience sampling technique with a maximum variation approach (Palinkas et al., 2015) was used to recruit audiologists, audiometrists, reception staff, and clinic managers through a large hearing services company in Western Australia. Fifty-two staff scheduled to attend a staff development day were invited to participate in a series of focus groups; all staff consented to participate. Staff were randomly assigned to one of the four focus groups by employee type, ensuring distribution of employee type across the focus groups matched that of the wider group. Four focus groups were run concurrently, and each staff member participated in only one focus group. Participants were unaware of the different topics discussed in the other focus groups. Only the data relating to this focus group is reported here. Two staff assigned to this focus group did not attend the training day due to illness and thus only 11 staff participated in this focus group.

Participants ( $N=11$ ) consisted of six hearing healthcare clinicians (five audiologists and one audiometrists), three audiology reception staff, and two audiology clinic managers. Hearing healthcare clinicians ranged in age from 25 to 36 years ( $M_{\text{age}} = 31.83 \pm 4.62$ ), with five females and one male. Clinicians self-reported between 1 to 13 years ( $M = 7.50 \pm 4.32$ ) of experience in working in the audiology setting. Reception staff ranged in ages from 28 to 33 ( $M_{\text{age}} = 30.00 \pm 2.65$ ), with three females. Years of experience ranged from 1 to 4 years ( $M = 2.00 \pm 1.73$ ). Clinic managers ranged in ages from 41 to 51 years ( $M_{\text{age}} = 46.00 \pm 7.07$ ), with two females. Years of experience ranged from 3 to 19 years ( $M = 11.00 \pm 11.31$ ).

It is important to note that the clinical protocols for the clinic did not include mental health screening tools. When asked directly, all participants stated that they had never

administered a mental health screening tool to a patient and had received no training in how to use mental health screening tools, with the exception of one of the participants, an audiologist who specialises in tinnitus services. This audiologist described receiving some training on delivering mental health support via a tinnitus training course, and had administered tinnitus severity surveys to clients which included questions relating to mental wellbeing, but had no experience with the surveys described in this study.

### ***Procedure***

The face-to-face focus groups were held in a large open-plan community hall in Scarborough, Western Australia, with each of the four groups situated far enough apart to provide privacy. Participants sat on chairs set up to form a circle, with the session moderator sitting with the participants in the circle. Participants first completed a demographic form, including: age, gender, occupation (clinical audiologist, clinical audiometrist, clinic receptionists, or clinic manager), and years of experience working with people with hearing loss.

Before the focus group commenced, the session moderator (R.E.) set the ground rules: (a) one speaker at a time, (b) clear voice so that the voice recorder can pick it up, (c) all views are welcome and valid, (d) make this a supportive environment and respect each other's views, (e) speak freely as data will be de-identified. Participants were given the opportunity to ask any questions before the session recording started. The focus group was then conducted in two parts:

- *Part One:* Participants were asked to discuss their role in detecting poor mental health in adults with hearing loss; how they currently achieve this; and what they need to be better equipped in detecting psychological distress in adults with hearing loss (Supplemental 1), and;
- *Part Two:* Participants were asked to discuss the appropriateness, acceptability and usability of the nine mental health screening tools (PHQ-4, HADS, PHQ-9, K10, GDS, GAD-7, SNI, Three-Item Loneliness Scale and De Jong Gierveld Scale; Supplemental 1).

The session moderator was a Senior Research Scientist with 20 years of experience working in audiology. During the session, questions were delivered in a neutral tone and participants were further prompted to elaborate on their responses and encouraged to build on each other's responses. All members of the group were given equal opportunity to provide input. While some participants were more vocal than others, none seemed to dominate the conversation and all participants put forward at least one comment. The session went for 1.5 hours and was audio-recorded using a hand-held Sony ICD-PX470 recorder, which was



positioned in the middle of the group to pick up all speakers, and to allow for professional transcription, and analysis of the dialogue.

### **Data analysis**

Focus group audio recordings were professionally transcribed by an independent service and imported into Microsoft Excel for analysis. The transcripts from Part One were analysed via an inductive thematic analysis (Braun & Clarke, 2006). Data were coded into meaningful units of information, and then grouped into categories of similar descriptions or ideas. Patterns across the codes and categories were used to identify themes within the data (Braun & Clarke, 2006). Coding into meaning units was performed by one researcher (S.D.), with 100% of codes cross-checked by another researcher (R.B.), with discrepancies discussed and resolved in discussion with a third member of the research team (I.K-F.). Grouping of meaning units and identification of themes was initially conducted by two researchers (S.D. & R.B.), and cross-checked by four additional researchers (Y.M., R.E., J.B. & I.K-F.), with the six then discussing any discrepancies and coming to a consensus. Although presented here as a linear, step-by-step procedure, the research analysis was an iterative and reflexive process.

The transcripts from Part Two were analysed via a hybrid deductive and inductive thematic analysis. First, sections of raw data were segmented according to the individual screening tools that each related to (deductive), and an overarching theme was created for each of the screening tools. Second, data within each theme was coded into meaningful units of information, and then grouped into categories of similar descriptions or ideas (sub-themes). This process was performed by one researcher (S.D.), with 100% of the work cross-checked by another researcher (R.B.), at monthly intervals.

The Human Research Ethics Office of The University of Western Australia granted ethical approval for this study. All participants provided written consent to participate.

## **RESULTS**

The results of the focus group data addressing aims: (i) the role of audiology clinic staff in detecting signs and symptoms of poor psychological wellbeing and mental illness in adults with hearing loss, and; (ii) the appropriateness, acceptability and usability of mental health screening measures in the audiology setting, are presented below.

### **Detecting psychological distress in adults with hearing loss**

Participants described the role of the audiology clinic staff in detecting poor psychological wellbeing and mental illness in adults with hearing loss, how they currently achieve this, and what they need to be better equipped in detecting these issues in adults with hearing loss (Supplemental 2). Six themes (21 sub-themes) describe the role of audiology clinical staff in detecting poor psychological wellbeing and mental illness (Figure 2).

**Awareness (2 sub-themes).** Participants described the importance of audiology clinic staff being aware of psychological difficulties that their clients may face. Further, they noted the importance of facilitating an understanding about the link between hearing loss and mental health for their clients, but also for other health professionals involved in the client's care. Specifically, they described (i) general awareness of poor mental health (five meaning units), and (ii) awareness of the link between hearing loss and poor mental health (eight meaning units).

*"I think just that awareness is a big thing. How do we create that awareness within the team? And what do you then do about it?" – Clinic manager*

*"A lot of the time clients will come in and they don't really realise there's a link between the two [hearing loss and poor mental health]. So they don't really want to engage that much with regards to how they are socially. They say, my hearing is this, what can we do for my hearing. And not realising that there may be a link with the social withdrawal." – Audiologist/audiometrist*

**Symptom Identification (5 sub-themes).** Participants discussed the different methods that can be used by audiology clinic staff to identify the signs and symptoms of poor psychological well-being and mental illness in their clients. In particular, participants mentioned the importance and involvement of: (i) conversations with the client about mental health (16 meaning units); how (ii) significant others help identify and report poor mental health (four meaning units); how (iii) audiology staff observe the signs and symptoms of poor mental health (20 meaning units); (iv) using the client case history to detect poor mental health (14 meaning units), and; (v) using screening tools to detect poor mental health (27 meaning units).

*"And family does play a part. I feel like if you speak to them and ask them what their concerns are and what their feelings are, I think that also plays a part, because as I say a client is not going to tell you they're depressed. But a family member might." – Audiologist/audiometrist*

*"Yes, reading some red flags on the case history, I think part of our role may be to expand on that and give them some information if it's not looking like an ear related thing. We go, yes cool, it's not ear related, go oh maybe it could be this, how are you feeling at work? Are you stressed?" – Audiologist/audiometrist*

*"I think it [mental health screening tool] needs to be subtly brought into the session once they've given you one or two red flags and you need to subtly say, I think it*

*would be a good idea for you to fill out this form and we can assess and see if there is a way that we can support you from the hearing side and the mental health side.” – Audiologist/audiometrist*

**Impact (2 sub-themes).** Throughout the discussion, two main impacts were raised as a potential result of a client’s poor mental health. Participants described the: (i) bidirectional relationship between hearing loss and poor mental health (six meaning units), and its impact on treatment outcomes, and; (ii) the impact on a client’s significant others (one meaning unit) in terms of a client’s poor mental health.

*“And it [poor mental health] really impacts outcomes, particularly for clients that I can speak to.” – Audiologist/audiometrist*

*“[Poor mental health] may or may not be their initial cause [of hearing loss] but I’m sure it contributes to it. – Audiologist/audiometrist*

*“It [hearing loss] can still impact on it [poor mental health] as well, because if you fit someone with hearing aids and they’re frustrated, and having issues with their [hearing aids]... And it might be adding to stuff that they’ve already got going on, then that’s not helping. Where if you fit them and it’s successful, it may be making that [mental health] better.” – Audiologist/audiometrist*

**Providing support (6 sub-themes).** As part of this theme, participants discussed current and future practices around providing support for poor mental health in an audiological setting, and the involvement of a client’s wider health network. Sub-themes included: (i) general duty of care (two meaning units); (ii) support currently provided in the audiological setting (11 meaning units); (iii) referring for psychological support (15 meaning units); (iv) collaboration with wider networks (11 meaning units); (v) clients appreciate detection (one meaning units), and; (vi) communication within the audiological team (four meaning units).

*“If you’ve seen someone and they’re presenting with something that is maybe bigger than what you’re there to treat them for. So if they’re here for hearing aids, then is that going to go well if their primary need isn’t addressed? So your duty of care is to make sure that you refer them to the appropriate centre.” – Audiologist/audiometrist*

*“Something that could be really useful is building up relationships with counsellors or psychologists around us, and having a referral base in between us.” – Audiologist/audiometrist*

*“And that the client actually called back [the audiologist] to say thank you for putting something in a report so that the GP was aware and then it got later detected the other way around, which was really nice.” – Reception staff*

*“You can say, I’m here to help you with your hearing, but you may need other support or services and I might be able to support you to access those.” –*

*Audiologist/audiometrist*

*“I think it’s important for us [reception staff] to notice the [poor psychological well-being] signs so there’s some things that we see that might not carry on into the room. Also, passing that information on to the audiologists, giving them a heads up on how your interactions have been with the client, things that they’ve said to you or pointed out that might be of concern. Or if someone’s acting nervous or if they’ve come out with some results and are quite tearful. Or anything like that, just making sure that we’re keeping the audiologist in the loop.” - Reception staff*

**Barriers (5 sub-themes).** Participants identified a number of barriers that prevent them from being able to detect and support client’s poor mental health to the best of their ability. Barriers included: (i) time constraints (eight meaning units); (ii) insufficient training (15 meaning units); (iii) the hearing device-focussed nature of current audiological services (7 meaning units); (iv) perceived consequences of initiating discussion about mental health (11 meaning units), and; (v) inadequate clinical processes (10 meaning units).

*“Time wise, if you’re one of the first people they [the client] meet and you’re flagging these issues, and they’re starting to open up to you. You don’t want to go, here’s a questionnaire, fill it out in two minutes and go thanks very much, see you later. You might start opening this dialogue and you don’t want to push them out the door in five minutes or something. You are now invested in a conversation.” –*

*Audiologist/audiometrist*

*“I feel a time constraint and you may not know ahead of time that this is someone who is going to need extra time, and now you’re suddenly in the situation. And that you can’t extricate yourself.” - Audiologist/audiometrist*

*“I know some of them [signs of poor mental health]. I probably need to know more. I think everyone needs some revision.” – Audiologist/audiometrist*

*“We [reception staff] need some more training on how to navigate through some phone calls with clients because they are becoming increasingly emotive. So it is something that we are actually seeing a lot more regularly.” - Reception staff*

*“You can teach me how to screen [for poor mental health] but I also need the training to go from there. What do I say?” – Audiologist/audiometrist*

**Staff self-care (1 sub-theme).** Participants discussed the need for ongoing support when working with clients who are experiencing psychological concerns. One sub-theme was identified: (1) Support for audiology clinic staff (eight meaning units).

*“[Our work environment should] Be there to support us if we are not sure, also be there for de-briefing if that’s needed after a difficult one.” – Audiologist/audiometrist*

*“I know when there’s a really tricky client, the clinician or the reception staff will come and speak to [name] because it needs to be addressed by a manager. So often she’s the person that has that conversation with the client. And usually there’s mental health stuff behind those needs.” – Reception staff*

*“But then also if it [the client’s poor mental health] is affecting them [audiology clinic staff], as management we need to be aware of how it’s affecting our team as well.” – Clinic manager*

### **The appropriateness, acceptability and usability of screening surveys**

Participants were asked to make comments about the usability, acceptability and appropriateness of selected screening tools. As a result, these themes were deductively identified in the discussion. The group also repeatedly made reference to guidelines around the administration method, language used in screening tools, and the use of scoring criteria and descriptors that are visible to the client. These themes emerged inductively throughout the process.

Summaries of the comments made in relation to each screening tool are outlined below, in alphabetical order. Throughout the discussion, participants also outlined more general feedback on the use of screening tools in practice.

#### ***Cohen’s Social Network Index (SNI) – 21 comments made by participants***

Feedback on the SNI in terms of its usability included that it was quite long and verbose. Participants were uncertain about the SNIs appropriateness as it was unclear to them how it directly related to mental health. Participants were unsure whether the SNI would provide an accurate picture of a client’s psychological well-being as it does not consider whether social isolation is due to a client’s preference or not. However, it was still considered to provide useful information to the audiologist.

#### ***DeJong Gieverld Loneliness Scale-11 (DeJong) – 16 comments made by participants***

The DeJong scale was thought to be easy to use, and the title was deemed appropriate. Participants acknowledged that the screener only covered loneliness. Some considered this to be useful because it would provide good information about whether the client is lonely and whether they have appropriate supports. Others were unsure about what they would need to do if this screener identified someone as lonely, as it is not a diagnosable condition. Due to the phrasing of questions, it was considered whether some clients may be unintentionally overlooked using this screener.

#### **Generalized Anxiety Disorder-7 (GAD-7) – 10 comments made by participants**

The GAD-7 was well tolerated by clinicians. However, there was concern that it only screened anxiety, and so may not be broad enough for an audiologist's needs. The negative wording of many of the items, and the directness of the title, was thought to be potentially intimidating to clients.

#### **Geriatric Depression Scale (GDS) – 27 comments made by participants**

It was reported that the GDS would have good usability with the "Yes/No" response scale. Participants believed that the questions would provide a brief snapshot of the client's mental health. The GDS appeared relevant to a large proportion of audiology clients. However, there was concern around the term "geriatric" in the title, and it was considered whether this would make the client and/or audiologist feel uncomfortable.

#### **Hospital Anxiety and Depression Scale (HADS) – 24 comments made by participants**

Feedback on the usability of the HADS was mixed. Some participants considered that the HADS provided the audiologist with useful information, whereas others believed it might be too long and potentially intimidating for clients to complete. Specifically, there were concerns around the title as the participants noted that it may imply to the client that they already have diagnosable anxiety and/or depression, rather than it acting as a screener. Additional comments mentioned that the removal of screening cut offs/descriptors on the page visible to the client would improve its acceptability.

#### **Kessler Psychological Distress Scale (K10) – 15 comments made by participants**

Participants commented that the K10 was a good length and appeared easy to use. It was noted that the K10 does not test for one specific disorder which may make it appropriate for identifying clients who are struggling with a range of psychological difficulties. The language

of the screener was described as being unlikely to offend clients and may instead create an opportunity for audiologists to have a conversation about mental health.

***Patient Health Questionnaire-4 (PHQ-4) – 16 comments made by participants***

Participants noted that this screener was of a good length and appeared simple to use. It was reported that the wording of the questions was not too invasive or intimidating, but still asked about anxiety and depression symptoms directly enough that it would be useful for the audiologist.

***Patient Health Questionnaire-9 (PHQ-9) – 11 comments made by participants***

The PHQ-9 was noted to have good usability in terms of ease of administration for clinicians. Participants considered it appropriate that questions in the screener included early or milder symptoms of depression. Furthermore, it was discussed that the rating scale allowed clients to endorse symptoms to varying degrees rather than forcing an all or nothing response. By having a scale in this format, it was thought that this would improve acceptability and willingness of clients to respond honestly.

***Three-Item Loneliness Scale (Loneliness Scale) – 26 comments made by participants***

Participants believed that the questions could be easily incorporated as part of the case history form. Participants discussed that the administration of the screener may be client and context dependent. This screener was deemed appropriate for an audiological setting as it has clear links with hearing loss, and could be used by the audiologist to talk about loneliness with their client. However, it was also commented that the term “loneliness” may have negative connotations for some clients.

***General Feedback – 13 comments made by participants***

Screening tools should strike a good balance between the length and breadth of content covered. Titles should avoid potentially intimidating language around mental health. Screening tools are helpful in that they promote self-awareness in the client regarding their own mental health, and can be used by audiologists to inform clients about the link between hearing loss and mental health. There is uncertainty around when screening tools should be administered, and to which clients.

## DISCUSSION

This qualitative and exploratory study investigated the perspectives of audiology clinic staff (audiologists, audiometrists, clinic receptionists and managers) in detecting poor mental health, and the potential use of screening tools to assist detection.

### ***Selection of psychological screening tools***

Our initial exploration revealed a large variety of mental health screening tools. However, the quality and appropriateness of many of these is questionable for use in clinical practice in adults with hearing loss. For example, several potential “screening tools” contained a large number of items, were difficult to find or had an attached financial cost per protocol, making them impractical given the time and financial constraints in clinical practice. Subsequently, the majority of these were deemed inappropriate for the audiology setting and only a small representative sample were presented to the participants in this study. Of note, appropriate social anxiety screeners were considered to be especially limited, despite the studies describing symptoms of social anxiety in adults with hearing loss (Pirani et al., 2017; Monzani et al., 2008). Instead, social anxiety may be considered captured by a broader general anxiety screening tool, despite these being related, though distinct symptomology (Counsell et al., 2017).

Many identified tools were originally designed for research purposes and have not been validated in adults with hearing loss. Although several screening tools have been used in adult populations with hearing loss, there were limited reports examining their appropriateness for this use; for example, several symptom screeners contained items about changes in social interactions. However, individuals with hearing loss tend to socialise less than those with normal hearing. While this lack of social contact may imply poor mental health for some, it can be indicative of more adaptive behaviours for others. For persons with hearing loss, social interactions can become more challenging, fatiguing and anxiety provoking, and so isolating behaviours may be protective, and not necessarily indicative of psychological distress (Heffernan et al., 2016; Bennett., 2021). Particularly, the experience of social isolation can vary depending on the time post hearing loss diagnosis, with those several years post diagnosis experiencing social isolation that most likely reflects lifestyle preferences rather than psychological concerns that are more common in those newly diagnosed (Mick et al., 2014). Importantly, screening tools need to be tested and validated in adults with hearing loss before they can be confidently used for identifying poor mental health in this population.

### ***Detecting psychological concerns in adults with hearing loss***

Participants emphasised the importance of knowledge and understanding regarding the psychological concerns that can accompany hearing loss, as well as how the distress may be



impacting upon a clients': (i) mental health; (ii) their significant others', and; (iii) access and outcomes of audiological rehabilitations. These perspectives are echoed by adults with hearing loss, who have called for their audiologists to be better informed and more aware of the psychological impacts of hearing loss laird (Laird et al., 2020; Bennett et al, 2021). Participants in the current study emphasised that knowledge of the potential for psychological difficulties is not sufficient, and rather, that audiologists need to be identifying psychological symptoms, and providing appropriate and timely support. Participants identified five different approaches to potentially identify psychological concerns in their clients, relating to subtle detection of signs and symptoms, directly asking the client or significant other about their mental health, or use of screening tools and case histories. However, research suggests that audiologists do not routinely use mental health screening tools (Bennett et al., 2020). Barriers to use of screening tools identified in the current study included insufficient training (especially administration, interpretation and providing results to clients), and lack of opportunity (time constraints). Audiologists also expressed uncertainty around whether all clients should be screened, and at what point in their engagement with the service. Research suggests such barriers are not uncommon among healthcare professionals without formal mental health training, citing a lack of knowledge as the greatest barrier to screening in healthcare settings, as well as fear of offending patients, and perceived time pressures (McCauley et al., 2019; Stith, 2013).

One of the key barriers to identifying poor mental health in clients was the lack of skill regarding what to do if symptoms of poor mental health are detected. Some participants described referring clients onto other clinicians for psychological support, but for the most part, participants reflected back on the barriers (e.g., lack of skill, time, and resources for the provision of psychological support within the audiology setting). Participants also acknowledged the perception of negative consequences of initiating discussion about poor mental health. Despite their lack of confidence, there was clear positivity towards developing skills, interdisciplinary partnerships, and clinical procedures to enable clinic staff to better support their clients experiencing psychological concerns relating to hearing loss. Meta-analytic evidence suggests that non-mental health professionals (e.g., police officers, public health workers) can be trained to improve short term behaviours in identifying and supporting people with mental health concerns (Booth et al., 2017) - with this research also highlighting that long-term changes in behaviours require follow up training.

Of note, participants (audiologists, audiometrists, clinic receptionists and managers) raised the need for personal support when working with clients who are experiencing psychological concerns. Specifically, participants indicated that working in a hearing clinic can be emotionally challenging, and that staff require coping strategies to manage the after-effects of working with distressed clients. Due to the emotional demands placed on clinic staff from clients, staff are at risk to significant stress, reduced professional quality of life, secondary trauma (due to disclosure from client) or compassion fatigue (Ravi et al., 2012).

Meta-analytic research has identified healthcare professionals with fewer healthcare qualifications and less years of experience to be most susceptible (Sinclair et al., 2017). However, the prevalence of occupational stress experienced due to emotional demands from clients in an audiology setting can vary, and is potentially mediated by a supportive work environment and appropriate training for managing emotional demanding clients (Severn et al., 2012). Research has supported the use of professional training in self-care as one method for building resilience and self-awareness of compassion fatigue (Klein et al., 2018), as well as encouraging and facilitating support seeking (Rauvola et al., 2019).

### ***Appropriateness, acceptability and usability of screening surveys***

Although the participants described positive regard towards using mental health screening surveys in the first part of the focus group, when presented with a range of currently available screening surveys, enthusiasm was mixed.

Regarding selection of a screening tool for clinical use, participants discussed the importance of choosing tools that would provide them with relevant information to help them better understand their patient's needs. Furthermore, the use of more broad screening tools (e.g., those that ask about various aspects of mental health) were considered to create a more natural opportunity for clinic staff to investigate concerns in a less confronting way than asking them directly. Participants were cautious of tools with titles or questions within them that could be perceived as inappropriate by clients (e.g., risk of client feeling that they were being inappropriately diagnosed). Fear of offending clients has been echoed by other healthcare professionals as a primary barrier to using screening tools (Hamberger et al., 2015; McCauley et al., 2019). However, findings indicate that from the client's perspective, primary concerns for detection are related to the fear of being perceived negatively by the healthcare professional (Dew et al., 2007; Gask et al., 2003). Continuity of care with clients and building trust in not only the individual practitioner, but also the wider institution, has been identified as vital in changing this dynamic (Dew et al., 2007).

Overall, screening tools were acknowledged as useful for identifying individuals who may be experiencing current psychological difficulties. Clinic staff felt they could use screening tools to identify possible indicators or red flags of psychological concerns. It is important to also acknowledge the limitations of screening tools in practice in that they are not intended to diagnose a mental health condition, or be able to fully capture a client's psychological presentation (particularly for those clients who are more complex). Instead, concerns would require further investigation by trained mental health professionals.

***Limitations and future research***

We chose to conduct this qualitative and exploratory study in a small sample of audiologists, audiometrists, clinic receptionists and managers recruited from a single Western Australia-based clinic as part of a larger study developing a behavioural intervention program to be implemented within this clinic chain. Findings may not be representative of the wider audiology profession, but provide a starting point for further research in this unexplored space.

Audiology clinic staff described a number of barriers to detecting mental health concerns in clinical practice including time constraints during appointments, insufficient mental health training, and perceived consequences of initiating discussions around mental health. Future research should investigate how such barriers could be overcome, including elucidation of training needs and skills deficits, and developing training packages which address these needs. Future studies could also further explore the issue of perceived stigma around mental illness by both healthcare providers and patients, and how this may impact on detection and access to support. Future research may look towards developing a mental health screening tool that is specific to the unique experiences of adults with comorbid hearing loss and mental health concerns. Specifically, inclusion of items which make the distinction between general anxiety and social anxiety signs and symptoms would be important as they reflect related, though distinct profiles of difficulties (Counsell et al., 2017).

**CONCLUSION**

Current clinical practice guidelines recommend use of mental health screening tools to help with symptom identification in the audiology setting. However, research has found that use of these screening tools is limited in practice. In this study, audiology clinic staff (audiologists, audiometrists, clinic receptionists and managers) identified six themes relating to the role of audiology clinic staff including: (1) awareness of the mental well-being impacts of hearing loss, (2) symptom identification, (3) personal impacts, (4) providing support, (5) barriers, and (6) staff self-care. Audiology clinic staff acknowledged that they are aware of the mental well-being impacts of hearing loss and that they have an important role to play in detection. However, participants also identified the core barriers to using screening tools in clinical practice. Future research should investigate how identified barriers could be overcome, and the utility of developing a mental wellbeing screening tool that is specific to the experiences of those with hearing loss. Our findings suggest that with appropriate training audiology clinic staff should feel empowered to use mental health screening tools in practice to assist with symptom identification.

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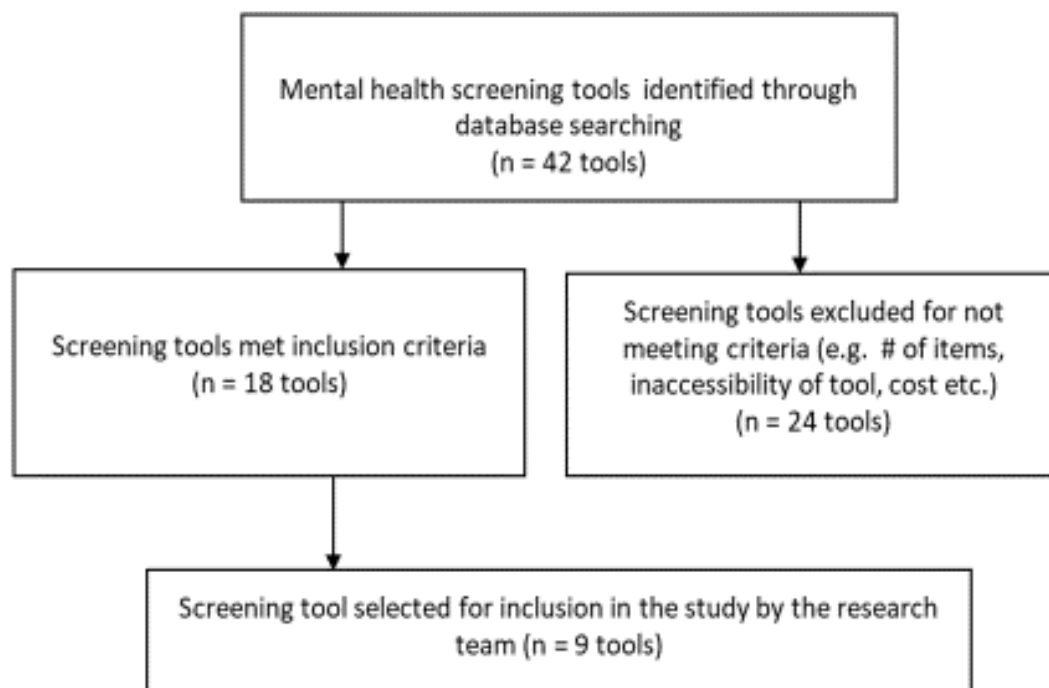
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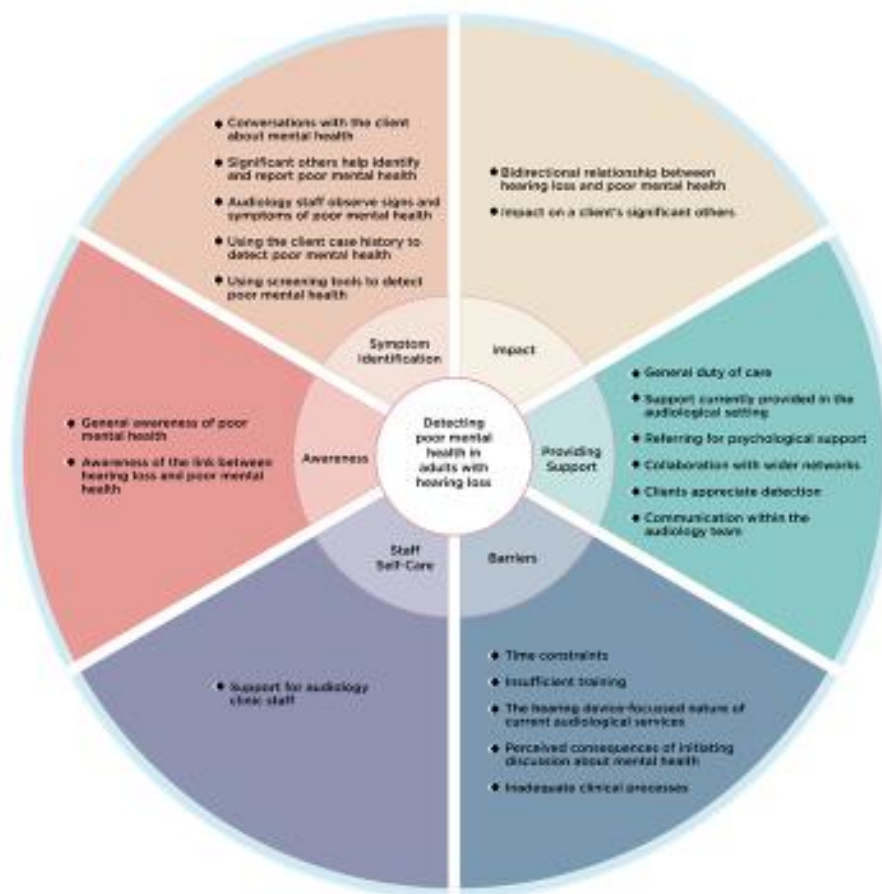


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**Figure 1.** Mental health screening tools exclusion flowchart



**Figure 2.** Themes and sub-themes identified in relation to the role of audiology clinic staff in detecting psychological concerns in adults with hearing loss.



**Supplemental 1.** Focus group prompts

**Supplemental 2.** Themes and sub-themes identified in relation to the role of audiology clinic staff in detecting psychological concerns in adults with hearing loss.

**Supplemental 3.** Mental Health Screening Tools