

# Hyperacusis-related distress and comorbid psychiatric illness

BY HASHIR AAZH

Research suggests that over 50% of patients presenting with hyperacusis also present with some form of psychiatric disorder. With this in mind, **Dr Aazh** outlines what tools clinicians can use to screen for psychological disorders and what path to take if screening tools give positive results.

## Background

Hyperacusis is intolerance of certain everyday sounds that causes significant distress and impairment in social, occupational, recreational, and other day-to-day activities [1]. The sounds may be perceived as uncomfortably loud, unpleasant, frightening, or painful. The correlation between tinnitus and hyperacusis was first highlighted by Tyler and Conrad Armes [2]. A study using the Tinnitus Research Initiative (TRI) Database showed that 55% of patients who had tinnitus also reported having hyperacusis [3]. The underlying mechanism of hyperacusis is not fully understood and currently there is no proven 'cure' for hyperacusis.

The International Conference on Hyperacusis (<https://hyperacusisresearch.co.uk>) in the UK is a landmark academic event devoted to enhancing research and raising awareness about hyperacusis and other forms of intolerance to sound [4].

## Hyperacusis and mental health

Research studies have shown that over 50% of patients with hyperacusis also suffer from a psychiatric disorder [1]. Recent studies in the UK show that approximately one third of the patients with tinnitus and hyperacusis presented with symptoms of depression and there was a small but significant correlation between suicidal and self-

harm ideations and hyperacusis severity ( $r=0.18$ ,  $p=0.036$ ) [4,5]. It is very important to distinguish hyperacusis-related distress from the distress linked to other underlying psychological disorders in a person who also happens to experience hyperacusis. The former may benefit from an intervention focused on hyperacusis management which typically is offered by audiologists (i.e. audiologist-delivered cognitive behavioural therapy (CBT) focused on tinnitus and hyperacusis rehabilitation), and the latter would need to be seen by mental health professionals for diagnosis and appropriate treatment of the underlying psychological disorder.

## How to distinguish hyperacusis-related distress from the distress caused by other psychological disorders?

Audiology departments play a major role in offering therapy and support for patients experiencing hyperacusis. Given the high prevalence of psychological disorders among patients who experience hyperacusis, it is important for audiologists who are specialised in management of tinnitus and hyperacusis to use an evidence-based methodology in assessment of the distress and its sources. Based on a series of collaborative research between the Royal Surrey County Hospital and the University of Cambridge, two methods are

recommended in assessment of patients with hyperacusis: (1) Application of a wide range of psychological questionnaires and (2) in-depth interview.

1) The first task is to screen for any comorbid psychological disorders. In our research, the following questionnaires were assessed for their acceptability and personal relevance to patients with tinnitus and/or hyperacusis: Generalised Anxiety Disorder (GAD-7), short Health Anxiety Inventory (sHAI), Mini-Social Phobia Inventory (Mini-SPIN), Obsessive Compulsive Inventory-Revised (OCI-R), Panic Disorder Severity Scale-Self Report (PDSS-SR), Patient Health Questionnaire (PHQ-9), and Penn State Worry Questionnaire-Abbreviated version (PSWQ-A) [1]. All questionnaires, except the PDSS-SR, were rated as relevant and recommended for use. There were significant relationships between hyperacusis handicap and responses on the PHQ-9, SHAI, Mini-SPIN, PDSS-SR and PSWQ [1]. The relative risk ratio of abnormal scores on the PHQ-9, SHAI, MiniSPIN, PDSS-SR and PSWQ increased by factors of 2.7 (95%CI: 1.04-7.13), 4.05 (95%CI: 1.59-10.3), 3.4 (95% CI: 1.4-8.09), 4.4 (95%CI: 1.5-12.8) and 2.5 (95%CI: 1.2-7.3), respectively, for patients with hyperacusis questionnaire (HQ) scores above 26 relative to scores for those with scores below 26 [1]. In other words, patients with hyperacusis handicap as measured via HQ were at higher risk of experiencing depression, health anxiety, social phobia, panic disorder and general anxiety. The use of these questionnaires can help audiologists to screen for underlying psychological disorders in patients with hyperacusis and make appropriate onward referral to mental health services. In addition,

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Dr Hashir Aazh, tinnitus team lead at Royal Surrey County Hospital, giving a talk in Guildford about his latest research findings.

abnormal scores on these questionnaires highlight the possible effect of the underlying psychological condition on a patient's experience of sound intolerance, which can help the audiologist when they conduct in-depth interviews to explore hyperacusis-related distress. Abnormal scores on the psychological questionnaires do not necessarily mean that the patient would not benefit from audiologist-delivered CBT for their hyperacusis.

2) In-depth interviews should be used to explore the patient's experience, behaviour, emotions and perceptions. During such interviews, patients are encouraged to talk about a typical day (e.g. 'tell me a bit more about how your hyperacusis affects your activities and/or mood on a typical day?'). Throughout, the principle of guided discovery is employed, in that the patient makes discoveries guided by careful questioning from the clinician. CBT for hyperacusis is only needed if the patient experiences current hyperacusis-related distress; in other words, if their day-to-day activities or mood are affected due to their sound intolerance. Our recent research on audiologist-delivered CBT

showed that 68.5% (124/181) of patients with abnormal scores on the HQ and/or tinnitus handicap inventory (THI) (in the case of co morbid tinnitus) presented with tinnitus- and/or hyperacusis-related distress. For 31.5% patients (57/181) there was no current tinnitus- and/or hyperacusis-related distress. For 17 out of 57 patients it was agreed that the emotional disturbances they were experiencing did not seem to be related to their tinnitus and/or hyperacusis and were more likely to be related to an underlying psychological disorder. Hence, they were referred for further psychological evaluations and treatment (when needed) [4]. In a case study presented in the 3rd International Conference on Hyperacusis, I discussed a patient who was referred for hyperacusis management for whom the in-depth interview revealed that the main reason for the distress she was experiencing was her symptoms of psychosis and visual hallucinations, which she felt were more likely to happen in a noisy situation [4]. The conclusion was that although she was experiencing intolerance to sound, the root cause of the problem was not hyperacusis. Hence, she was referred to the Early Intervention in Psychosis Service.

### Conclusions

The GAD-7, SHAI, Mini-SPIN, OCI-R, PSWQ-A, and PHQ-9 questionnaires are recommended for screening of psychological problems for patients seeking help for tinnitus and/or hyperacusis. Abnormal results on these questionnaires may indicate the need for referral to mental health services. In-depth interviews can be used in addition to self-report questionnaires to assess whether a patient is experiencing hyperacusis-related distress, i.e. to assess whether their day-to-day activities or mood are affected by their sound intolerance. About two thirds of

patients with abnormal scores on the HQ and/or THI may have current distress linked to their hyperacusis and/or tinnitus. These patients may benefit from audiologist-delivered CBT. To learn more about the methodology for audiologist-delivered CBT for tinnitus and hyperacusis rehabilitation visit [www.tinnitustherapy.org.uk](http://www.tinnitustherapy.org.uk)

### References

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**Hashir Aazh, BSc, MSc, PhD,**  
Audiology Department, Royal Surrey County Hospital  
NHS Foundation Trust, Egerton Road, Guildford, UK.