(T)

British Tinnitus
Association

SOLDIERING ON: The impact of tinnitus on veterans

A research study commissioned
by the Aged Veterans Fund, funded by
the Chancellor using LIBOR funds.

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About the British Tinnitus Association

The British Tinnitus Association (BTA) is the only national charity specialising in supporting people with tinnitus. We help over 1 million people annually. Our vision is a world where no one suffers from tinnitus.

To achieve this we have a two-fold mission:

- to fund research because we want a cure, we drive and demand progress
- to help people, we want everyone to know what tinnitus is, how to prevent it and how to manage it.

Our support services are vital to provide emotional support and help people manage their tinnitus. Services include our:

- Confidential Freephone helpline, email and webchat support, information leaflets, and our membership magazine *Quiet*
- Online support, including our website www.tinnitus.org.uk, social media, and online forum
- E-learning tool (www.takeontinnitus.co.uk) designed to help people newly diagnosed with tinnitus
- Awareness-raising events, including free Information Days around the UK, attending relevant events, Tinnitus Awareness Week, and our annual Conference
- Up-to-date information about local NHS services available to patients
- Discounted tinnitus management products for sale
- Support groups around the UK
- Training courses and information for tinnitus healthcare professionals

Our mission to progress towards a cure is led by the research we commission into curing tinnitus and improving treatments for tinnitus. We offer financial support via our large and small research grants programmes. The research we have supported in the past includes work on cognitive behavioural therapy for tinnitus-related insomnia; the use of the cortisol awakening response as a biomarker for tinnitus; anxiety in children and young people with tinnitus and hyperacusis; eye movement desensitisation and reprocessing as a possible treatment for tinnitus; and mindfulness behavioural cognitive therapy for tinnitus.

You can keep up to date with our activities by signing up for our monthly newsletter **Focus** *via our website, or following us on social media; Facebook, Twitter, Instagram, and LinkedIn.*

Executive summary

Little is known about the impact of tinnitus on UK veterans. Service in the military can involve exposure to high levels of noise, resulting in many military veterans experiencing hearing loss and tinnitus, which can continue beyond their service. Tinnitus is the number one Service-related disability in the US.

A questionnaire, focus group, and interviews were conducted to explore older UK veterans' experiences of living with tinnitus. To take part, the participants had to have served at least 1 day in the British Armed Forces and be born before 1950.

Over half of older veterans had lived with tinnitus for over 20 years, with many experiencing symptoms more severe than other research populations. There was **a lack of knowledge about tinnitus**, how it can be experienced, and the available management options. Veterans spoke about the lack of health and safety when they were in the British Armed Forces. During their time in the Services, veterans were exposed to high levels of noise and had no access to (adequate) hearing protection.

A number of **beliefs prevented veterans from seeking help for their tinnitus**. Veterans believed there were no effective treatments because tinnitus cannot be 'cured', and that tinnitus was not a priority health care demand compared to other conditions.

Participants had complex and diverse relationships with their identity as a veteran, and this influenced views about whether a veteran-specific tinnitus service would be beneficial. The 'military mind' was viewed as an integral part of being a veteran, which meant that **veterans were viewed as different to civilians**. A difference which was highlighted was veterans' **increased acceptance** of difficult situations; many had accepted their tinnitus and come to endure it instead of seeking help. **This research indicates that older UK veterans with tinnitus experience more severe symptoms than was reported for a general research population or US veteran population.**

Our four main recommendations are for the Government, health care professionals, and service providers, including any charities working with the UK veteran community, older people and/or people living with tinnitus to:

1. **Inform.** Share information with the veteran community and their friends and family about what tinnitus is and how it may be experienced.
2. **Prevent** (worsening) tinnitus through training about healthy hearing behaviours with the veteran community.
3. **Encourage** aged veterans to challenge any potential tinnitus help-seeking barriers.
4. **Educate** the public about who is a veteran, and the characteristics of the 'military mind'.

Forewords

During my years of service in the British Army, I was exposed to noise from all types of weapons. Over time I became aware of an almost constant ringing in my ears. However, like all the other 'tough' soldiers I never discussed it for fear of being found out, which would rapidly lead to a medical discharge.

Last year, I picked up a leaflet about research into tinnitus at the Royal Hospital Chelsea, where I now live alongside 290 other Chelsea Pensioners. Having read it, I felt motivated to get in touch because I didn't need to go through my doctor. During the subsequent interview I realised that I was talking to someone who was very knowledgeable about tinnitus but also willing to listen to my experience.

> This gave me the courage to speak to my GP, who arranged an appointment with an audiologist.

Now, I can honestly say that most of the time I do not have tinnitus.

The most important message that I would like to give to GPs and hearing specialists is how to approach and advise old soldiers like me. We fear being labelled as disabled. Most of us are not willing to admit to having tinnitus or we just accept it as 'par for the course'. It will take gentle persuasion to convince us that correcting our hearing loss and other measures can make tinnitus much less of a problem. I would like to thank everyone involved in this research project for giving me the opportunity to participate, which has resulted in such a big improvement in my quality of life.

Arthur W Currie
In-Pensioner, Royal Hospital Chelsea

One day in my clinic, a veteran said to me, "You don't understand how difficult it is for somebody like me to have to ask for help". His words have stayed with me.

Whilst I have no direct personal experience of serving in the armed forces, my late father served in Burma with the British 14th Army during World War 2 and he shared his experiences of military life with me: the camaraderie, having to keep a 'stiff upper lip' and having to carry on, regardless ...

I'm delighted to see the publication of this much-needed project, which was funded by The Royal British Legion using the Aged Veterans Fund, funded by the Chancellor using LIBOR funds. It's an excellent example of collaborative work between the BTA, the University of Nottingham and our veterans.

I'd like to thank the research team, especially Dr Georgina Burns-O'Connell, for their hard work and enthusiasm for researching the impact that tinnitus has on our veterans.

A big thank you is due to all the 125 veterans who took part in the research by sharing their personal experiences of the impact of tinnitus, together with opinions on their needs and ideas of what support they think may help.

A special thank you is due to Mr Arthur Currie for his input and for continuing to be an ambassador for the project and the BTA.

> I hope this is the start of a journey to improve our understanding of the impact of tinnitus on our veterans and which will lead to improved access and tailored services for them.

I'm sure that this piece of valuable research will enhance our clinical practice when dealing with veterans, and I'm personally looking forward to implementing the recommendations into my own practice. These recommendations are extremely important and I urge all clinicians in the tinnitus community to take them on board.

Tony Kay
President, British Tinnitus Association

Acknowledgements

Many thanks to the following people and organisations for making this research possible:

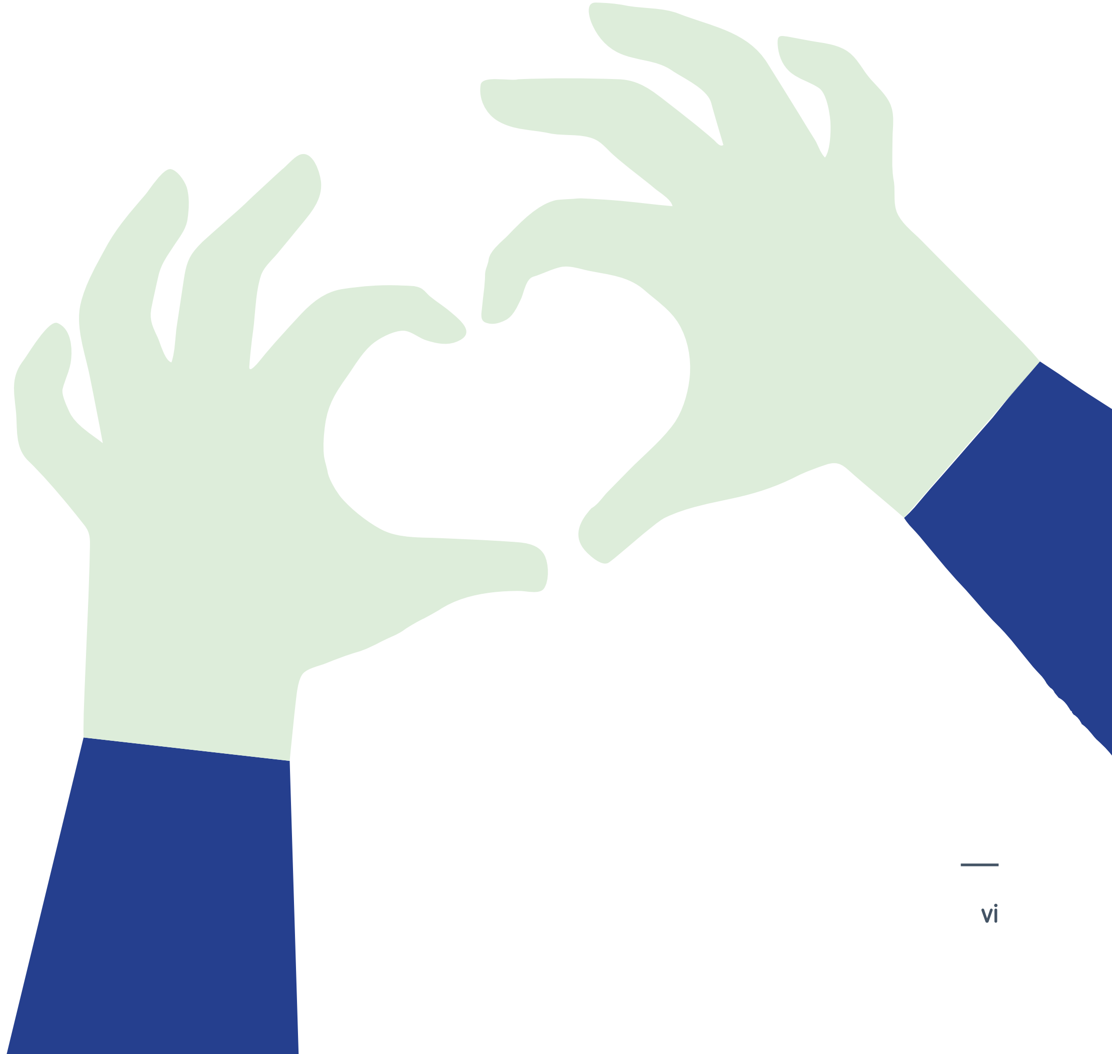
The veterans who participated in the research and their family members who supported their participation.

The Royal British Legion and the Ministry of Defence for managing and funding this important work.

The University of Nottingham Patient and Public Involvement group, HEAR-T<3 consultation members and the BTA Trustees and Professional Advisers' Committee for providing their useful feedback and valued perspectives throughout the research process.

Funders and portfolio managers

This project was funded by the Aged Veterans Fund, funded by the Chancellor using LIBOR funds, and reports to The Royal British Legion as part of their Healthy Lives portfolio of projects.



Abbreviations and key words

AVF	Aged Veterans Fund
BRC	Biomedical Research Centre
BTA	British Tinnitus Association
GP	General practitioner
HCP	Health care professional
MOD	Ministry of Defence
NCRAR	National Center for Rehabilitative Auditory Research
NIHL	Noise-induced hearing loss
NHS	National Health Service
PAC	Professional Advisers' Committee
PPI	Patient and Public Involvement
PTSD	Post-Traumatic Stress Disorder
TFI	Tinnitus Functional Index
TRBL	The Royal British Legion
VA	Veterans Affairs
VHF	Veterans Hearing Fund
UoN	University of Nottingham

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INTRODUCTION

This report documents the experiences of older veterans with tinnitus in the UK and the impact that living with tinnitus has on their lives.

Research focus

Tinnitus involves the perception of sound in the ears or head without any external sound source, and is most commonly associated with hearing loss, noise exposure, ageing, and stress (Cima et al., 2019). The impact of tinnitus on a person's life often involves problems such as anxiety, depression, difficulty concentrating, social isolation, or impaired hearing ability (Weidt et al., 2016). Nevertheless, our understanding of the wider perspectives and psychosocial context of adults with tinnitus is limited, especially amongst UK military veterans.

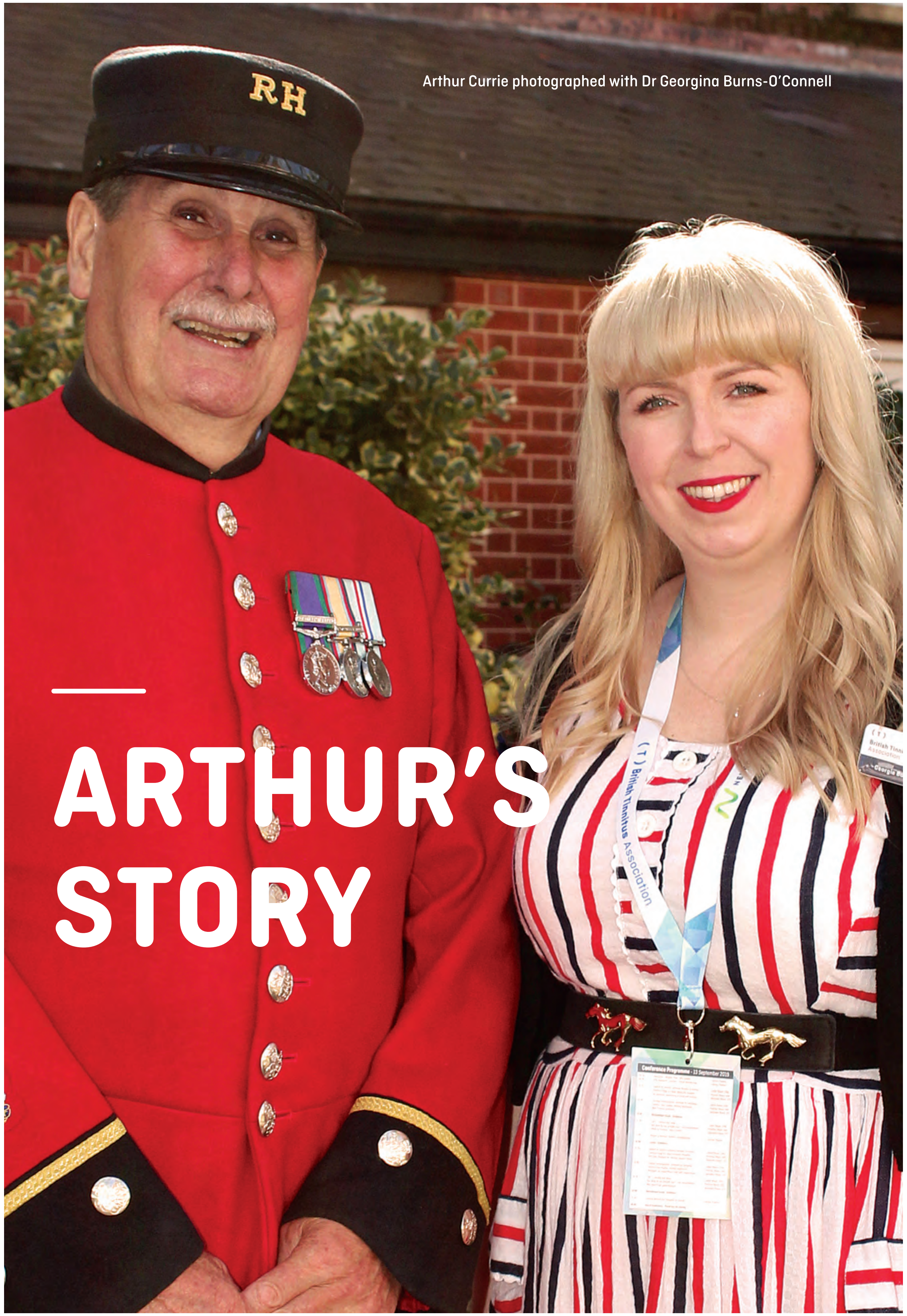
This project addresses the lack of information on the impact of tinnitus on older UK veterans, with a view to informing the development of tailored support and services to meet their health and wellbeing needs.

Focus: to explore the impact of tinnitus on older UK veterans

Research questions

Three research questions were defined:

1. What is the impact of tinnitus on older UK veterans (i.e. those born before 1 January 1950)?
2. What are the existing tinnitus services and support that are accessed by older UK veterans?
3. What are the unmet needs of older UK veterans that require changes to tinnitus services in the UK?



Arthur Currie photographed with Dr Georgina Burns-O'Connell

ARTHUR'S STORY

During 34 years of active service in the British Army, I was constantly exposed to noise from all types of weapons. Initially, our standard ear protection was 'Mark 1 Fingers',[1] later progressing to cotton wool balls, then foam ear plugs that often got stuck and had to be removed by the doctor.

Over time, I became aware of an almost constant ringing in my ears.

However, like all the other 'tough' soldiers, I never discussed it for fear of being found out, which would rapidly lead to a medical discharge. Moreover, we all feared that this would have an effect on our future employability outside the Army.

My tinnitus was almost permanently present. During the day it was possible to ignore it, but in the evenings it was so loud that it prevented me from falling asleep. As a result, I always slept with the radio or TV on to drown out the noise.

When I picked up a leaflet about research into tinnitus in the reception of the medical centre at the Royal Hospital Chelsea, where I now live alongside 290 other Chelsea Pensioners, I felt motivated to get in touch because I didn't need to go through my doctor. I still hadn't talked to anyone about my tinnitus, until I met Georgina, the BTA's researcher.

Speaking with someone knowledgeable and understanding gave me the courage to speak to my GP, who arranged an appointment with an audiologist. They detected only a moderate hearing loss but encouraged me to try hearing aids. I was very impressed by the time taken to adjust the settings to match my particular requirements. I couldn't believe the improvement in my hearing. For the next few days, I kept thinking that I was being followed because for the first time in years I could hear my own footsteps! I also noticed that I didn't have to ask people to repeat what they said, and others noticed that my voice was not so loud.

Now, I can honestly say that most of the time I do not have tinnitus. I sleep so well that I forget all about it. Sometimes I forget to put my hearing aids in. However, after a day without them, the tinnitus returns. It feels as though when my hearing is reduced my brain is searching for every sound, including the tinnitus, but when my hearing is normal it doesn't. My quality of life is hugely improved.

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[1] Putting your index fingers in your ears.

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SETTING THE CONTEXT FOR THE RESEARCH

What is tinnitus and why is it relevant to UK veterans?

Tinnitus involves the perception of sound in the ears or head without any external sound source (Cima et al., 2019). It is experienced by 13% of people (Genitsaridi et al., 2018) and for many it becomes bothersome. Problems reported by tinnitus patients include reduced quality of life, fears, inability to concentrate, effect on hearing ability, and loss of peace (Watts et al., 2018).

Tinnitus is often associated with noise exposure and hearing loss. Training and service in the military armed forces can involve exposure to high levels of noise. As such, many military veterans experience hearing loss and tinnitus (Gondusky and Reiter, 2005). In his foreword to *Lost Voices* (2014), the Director General of The Royal British Legion (TRBL) identifies hearing damage as one of the less visible effects of warfare. However, little is known about the specific impact of tinnitus on veterans in the UK (The Royal British Legion, 2014).

> “I'm glad that somebody is doing this research.” *(Veteran)*

In contrast, there has been considerable investment in US research on military noise-induced hearing loss (NIHL). The Director of the US National Center for Rehabilitative (Auditory) Research (NCRAR) highlights that one in four Service members returning from conflicts complains of hearing loss and/or tinnitus, and that as the veteran population ages, hearing loss (and other hearing disabilities) will become more prevalent, and more veterans will require treatment (Fausti, 2009).

The American Tinnitus Association (ATA) recognises that, whilst anyone can get tinnitus, there are certain groups of the population who are more at risk of developing it. **Both older people and military veterans are identified as ‘high-risk groups’.** Hearing loss is commonly associated with tinnitus – ageing can also deteriorate hearing health – and older people’s hearing loss can accelerate as they age, meaning they are “particularly prone to developing tinnitus as they age” (ATA, 2019). The ATA (2019) identifies tinnitus as a “huge and growing” problem for America’s military veterans, referring to “exposure to gunfire, explosives and loud machinery” as factors in developing Service-related hearing disabilities.

Tinnitus is the leading Service-related disability among US veterans (US Department of Veterans Affairs, 2016). Furthermore, **“the consequences of military noise exposure can last a lifetime”** (ATA, 2019).

This project addresses the recommendation made in The Royal British Legion (2014) *Lost Voices* report for research to be conducted about the impact of tinnitus on those who have served in the military. There is currently little knowledge of the impact tinnitus has on veterans within the UK, and there is no guidance for health care professionals (HCPs) to address the health and wellbeing needs of veterans affected by tinnitus.

One in 10 respondents of The Royal British Legion (2014) survey of 1,120 veterans said hearing loss and/or tinnitus had a ‘very big’ effect on their quality of life, and 43% reported it had a ‘significant effect’. However, only 15% felt satisfied with the level of support they received from the Government [e.g. Ministry of Defence (MOD) or National Health Service (NHS)]. When accessing broader research on patient views of tinnitus services, 33% of respondents were told that ‘nothing can be done’ and ’they will have to live with the tinnitus’ by an HCP (McFerran et al., 2018). A BTA online survey (2015) exploring tinnitus and the military received 130 responses, with 28% aged over 65. Of these veterans, 80% reported that visiting their general practitioner (GP) provided no improvement to their tinnitus, and selected the primary areas of unmet need to be ‘General information about the condition’ and ‘Information on how to manage tinnitus’. Likewise, McFerran et al. (2018) report that audiologists and hearing therapists were more likely than GPs to be described as ‘helpful’. However, despite an emerging evidence base identifying psychological treatments as the most effective tinnitus treatment option, only one in 40 patients have access to psychological therapies for their tinnitus (McFerran et al., 2018).

Previous research about veterans and tinnitus

To explore the impact of tinnitus on veterans, we conducted a scoping review (Burns-O’Connell and Hoare, 2019) to catalogue previous tinnitus research in veteran populations. This enabled us to identify any gaps in knowledge in this research area. When analysing the research publications to date, several challenges were identified:

- Demographic characteristics of veterans (i.e. age, gender, ethnicity, or job role and type/level of occupational noise exposure) were not consistently reported.
- Veteran populations were often recruited for tinnitus interventions in an opportunistic way, rather than because they were the unique population of interest.
- Some research publications did not specify whether their sample actually included veterans; it could only be assumed from the reported research setting (for example, a Veteran Affairs hospital).

- There has been no research into the impact or management of tinnitus in veterans in the UK. The majority of the research was conducted in the US (with many studies within the context of the VA system), apart from two which were conducted in Iran (Jalilvand, 2015) and Finland (Mrena, 2014).
- Individual studies yielded various types of information. Some studies noted the impact that tinnitus could have on the entire veteran community and others on the lives of individuals.
- Folmer (2011) highlights that the **prevalence of tinnitus is higher in veterans than in non-veterans.**

Impact of tinnitus

The presence of tinnitus has been found to be associated with anxiety, depression, and difficulties at work, concentrating, and with sleep (Cima et al., 2019). Although these are issues reported within general populations, difficulties in life because of tinnitus are acknowledged by veterans (Mrena, 2002). Henry et al. (2019) identify data that clearly support the need to offer evidence-based clinical services for veterans with tinnitus.

One retrospective study found that tinnitus caused by acute acoustic trauma was more likely to be a long-term problem and could be a serious threat to life satisfaction (Mrena, 2002). There can be an increasing impact of tinnitus on lived experiences following military service; consequently, there is a greater need for tinnitus care for military veterans (Henry et al., 2019).

Comorbidities

The review identified many conditions and severities of conditions that co-occur with tinnitus in veteran populations. For example, increased rates of hearing loss and/or tinnitus are associated with anxiety and/or depression (Hu, 2015), traumatic brain injury, and Post-Traumatic Stress Disorder (PTSD) (Swan, 2017). In a sample of 300 veterans, 34% were diagnosed with PTSD (Fagelson, 2007) and veterans with tinnitus and PTSD reported significantly poorer ability to manage their own condition (Fagelson, 2016). Suicide rates in veterans are reported to be lower among those who have tinnitus than those who do not have tinnitus; having a diagnosis of tinnitus is not found to significantly increase the risk for suicide among veterans who are receiving health care (Martz, 2018).

Treatment and service use

Eight tinnitus treatments that have been evaluated in veteran populations have been identified in the previous research literature which we reviewed (Table 1).

Table 1: Treatments that have been trialled in veterans.

Treatment	Design: Setting	Main finding
Acupuncture (for PTSD)	Case series: US	Inconclusive. Further studies indicated.
Cognitive Therapy	Case series: US	Improvement in mood but not quality of life.
Progressive Tinnitus Management	Various studies: US	Sustained self-management, small effect on tinnitus.
Transcranial Magnetic Stimulation	RCT*: US	Some improvement in tinnitus at follow-up, suggest treatment could be more targeted to particular brain areas.
Atorvastatin and low-fat diet	Cohort study: Pakistan	Change in cholesterol but not tinnitus.
Tinnitus Retraining Therapy	Various studies: US	Group counselling supported, TRT outcomes comparable to masking or education only.
Hearing aid or masker	Cohort study: Iran	Hearing aid better than masker for long-term use in blast-induced tinnitus.
Customised sound therapy	RCT: US	Three different sound treatments had the same effect on tinnitus.

*Randomised Controlled Trial

There have been many studies on a stepped-care approach to treatment called 'progressive tinnitus management' (PTM).[2] All studies have found this to be useful in reducing the impact of tinnitus (Henry et al., 2017) and improving quality of life (Edmonds et al., 2017).

> The PTM approach was developed in the US in 2006 and is delivered using the VA's clinical resources.
>
> "Throughout the PTM process, veterans work with a team of clinicians to create a personalized action plan to help manage their reactions to tinnitus and make it less of a problem.
>
> The five levels of management in the program include triage, evaluation, group education, interdisciplinary evaluation, individualized support."
>
> *(US Department of Veterans Affairs, 2016).*

Furthermore, PTM delivered over the telephone has also been reported as beneficial to patients (Henry et al., 2019a).

Unexpectedly, our review found that veterans disabled by hearing disorders were more likely than other disabled veterans to use VA mental health services, although they made slightly fewer visits than those disabled by other conditions (Kendall and Rosenheck, 2008). One study by Schmidt et al. (2018) found evidence that veterans responded to messages of hope from HCPs. It was suggested that rather than telling veterans to "just live with it," HCPs should be able to offer ideas and services for learning to live well with tinnitus.

At present there is little knowledge or literature on the impact of tinnitus on older veterans in the UK, particularly when compared to provision for clinical practice and funding for research with veterans who have tinnitus in the US.

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[2] Further information available at: www.ncrar.research.va.gov/education/documents/tinnitusdocuments/index.asp

3

METHODOLOGY AND METHODS

This study used a questionnaire to gather demographics and measure tinnitus impact, and interviews and a focus group to develop more detailed insights into the influence of tinnitus on the lives of older veterans.

The responses to the questionnaire were explored using descriptive statistical analysis, which was used to give an overview of what was happening in the data. The transcripts of the focus group and interviews were explored using a qualitative data analysis technique to identify key themes in the data. These key themes informed the development of our recommendations about how best to support older veterans living with tinnitus.

Eligibility criteria and recruitment

To participate in the research, individuals had to be an older veteran who experienced tinnitus. There is often confusion around the definition of 'veteran' (Burdett et al., 2013). This project used a definition provided by TRBL:

- individuals born before 1 January 1950 (making them 67 years of age or older at time of taking part in this research)
- residing permanently in the UK
- served at least 1 day in Her Majesty's Armed Forces (British Armed Forces).

This includes surviving World War 2 veterans, those who undertook National Service, and other voluntary enlisted veterans. People of all genders were invited to take part. Regarding tinnitus, the individual was expected to have experienced 'ringing in their ear(s)' at some point in their life since serving in the military.

The research topic was promoted online via social media and on veteran and tinnitus online forums, with details emailed to relevant charities. Flyers were also distributed via BTA support groups and information days, and to TRBL Pop-In centres and groups.

PHASE 1. Questionnaire development and administration

Phase 1 involved a questionnaire consisting of three eligibility questions, demographic information, and the Tinnitus Functional Index (TFI) (Meikle et al., 2012) questionnaire measure of tinnitus symptom severity. Next, participants answered six open questions which were developed specifically for this research. These asked about general health, the impact tinnitus has on them, and what support/health care they received or would consider helpful (Appendix A). The questionnaire was developed with advice from the National Institute for Health Research Nottingham Biomedical Research Centre (BRC) Patient and Public Involvement (PPI) panel. It was administered online using SurveyMonkey, and made available in paper format with Freepost return to the BTA.

PHASE 2. Interviews/focus group

Phase 2 involved a focus group and nine interviews, gathering in-depth information about veterans' lived experiences of tinnitus, for example, how it affected them in their day-to-day lives, what services they currently or previously accessed, what support they valued, and what support they needed. Topics discussed in the focus group/interviews were informed by the findings from Phase 1 (Appendix B).

The focus group and interviews were audio recorded and the recordings were transcribed by a professional transcription service. All data were anonymised by the research team.

Statistical analysis was used to gain an overview of the findings from the questionnaire responses.

Data analysis

Descriptive statistical analysis was used to gain an overview of the findings from the questionnaire responses. This analysis was conducted using the statistical computer software package SPSS.

Analysis of TFI scores determined which problems or domains measured by the tool were particularly problematic for veterans. Table 2 shows how the TFI scores were interpreted using the classification developed by Henry et al. (2016).

Table 2: Tinnitus Functional Index score classification according to Henry et al. (2016).

Tinnitus impact	**TFI score**	**Intervention level**
Relatively mild tinnitus	<25	Little or no need for intervention
Significant problems with tinnitus	25-50	Possible need for intervention
Severe tinnitus	>50	Qualifies for aggressive intervention

Findings from the TFI questionnaire were cross-examined with the qualitative results derived through the thematic analysis (Braun and Clarke, 2006) of the open-ended questions in the questionnaire study. Thematic analysis was also used to identify patterns and key themes within the data.

Patient and Public Involvement

The study was discussed and advised on by the BRC PPI panel at different stages throughout the life of the project. A BTA consultation group was invited to provide feedback and advice on the study from the perspective of the tinnitus community, and any veterans who were not eligible to participate in the study (e.g. because they were too young) were invited to provide feedback throughout the research process.

Ethical considerations

This study was reviewed and given favourable opinion by the UoN Faculty of Medicine & Health Sciences Research Ethics Committee. Participation in the study was entirely voluntary. Completion and subsequent return of a questionnaire was taken as informed consent. Therefore, separate written informed consent was not required. In the interviews and focus group, the researcher explained at the beginning that consent regarding study participation could be withdrawn at any time without penalty.

There was the potential that participants could experience their tinnitus in a more bothersome way once having discussed it. The potential for negative consequences of participation were considered low and outweighed by the potential positive experience of holding an influential role in informing future tinnitus services and support for older veterans. Participants were signposted to the resources available from the BTA.

4

FINDINGS

The aim of this study was to explore the impact of tinnitus on aged UK veterans, and to consider the support they receive and require to live well with tinnitus. We report the results from the questionnaire study first, followed by the further findings from the interviews and focus group.

Questionnaire study results

Demographic information

The questionnaire was completed by 125 participants

(122 males, 1 female, 2 not reported).

Age was reported in six categories:

14 participants were aged 68-69 years

36 were aged 70-74 years

30 were aged 75-79 years

30 were aged 80-84 years

10 were aged 85-89 years

4 were aged over 90 years

1 respondent did not report their age

Age of veteran

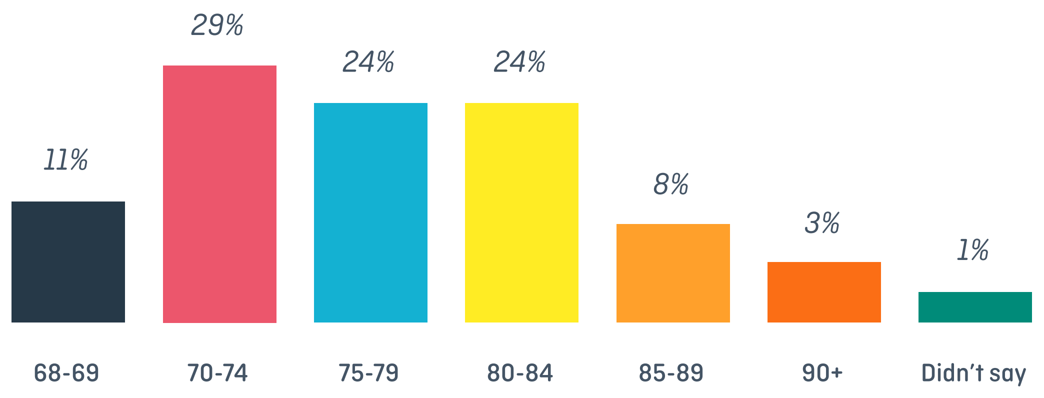


Figure 1: Percentage of participants in different age categories.

One-hundred and twenty-two participants (98%) identified their ethnicity as white UK; one Irish; one Polish; and one English/American. Twenty-six per cent of participants were members of the BTA *(Figure 2)*.

BTA members?

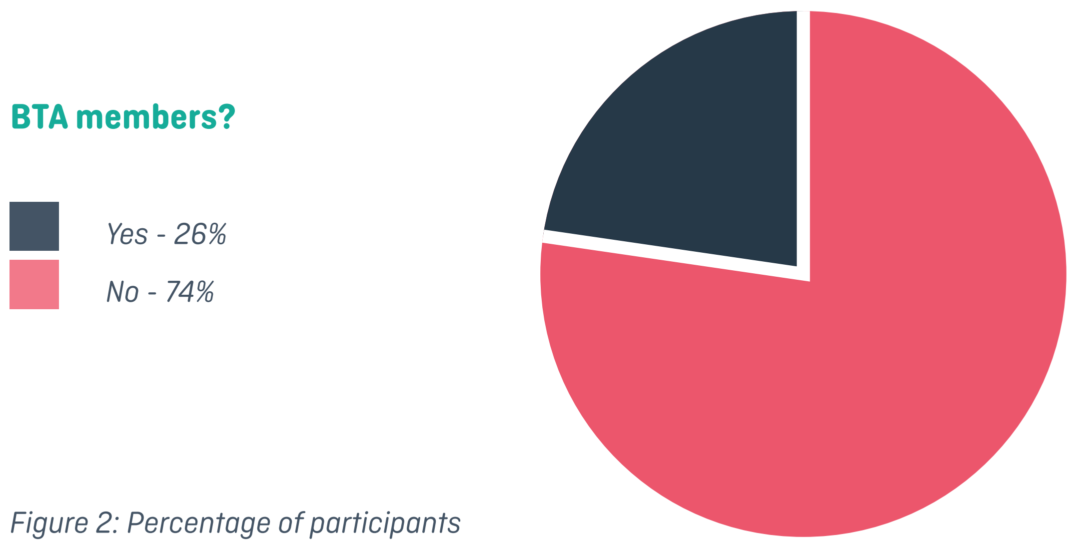


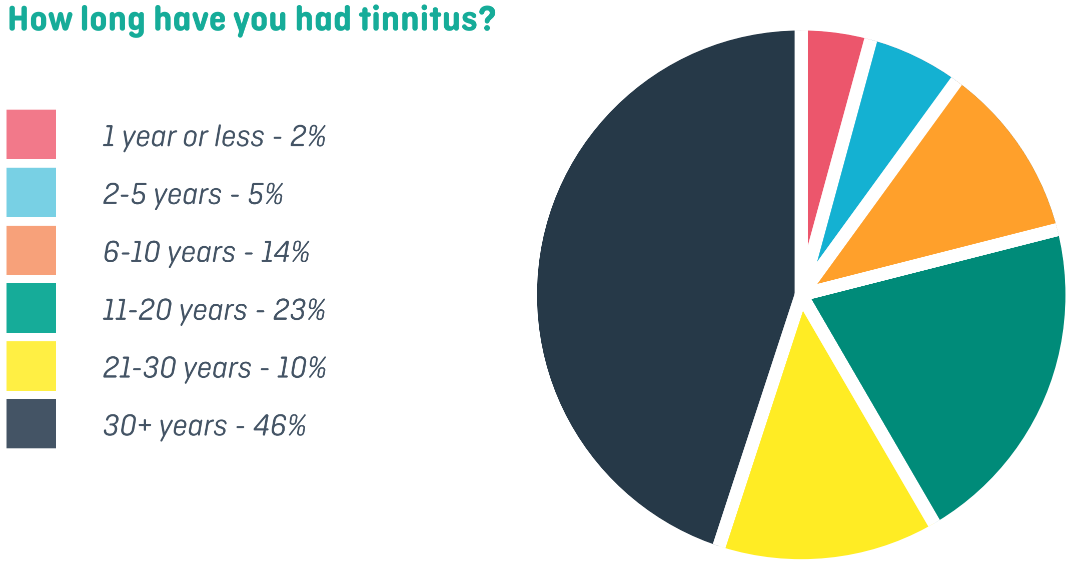
Figure 2: Percentage of participants who were BTA members.

The majority of participants had experienced and/or been diagnosed with other health conditions, in addition to experiencing tinnitus. Hearing loss, anxiety, and depression were commonly reported. Eyesight problems and asthma were less commonly reported. Conditions reported by the veterans that may be indirectly associated with tinnitus included spinal problems, cancer, and myalgic encephalomyelitis. Various age-typical conditions such as hypertension, diabetes, and heart conditions were also reported.

The sample included participants who had lived with tinnitus for a broad range of timescales:

1 year or less (= 3); 2-5 years (= 6); 6-10 years (= 17); 11-20 years (= 29); 21-30 years (= 12); and over 30 years (= 58) (Figure 6).

Just over three-quarters of veterans had lived with tinnitus for over a decade.



How long have you had tinnitus?

Figure 3: Percentages of participants with tinnitus of different durations.

Tinnitus impact

Tinnitus symptom severity differed across almost the full range of possible TFI scores (0-99) with an average TFI score of 45.11 (SD = 23.97) (Table 3). The average score is interpreted as 'Significant problems with tinnitus' and a 'Possible need for intervention' (Henry et al., 2016). Table 3 shows the average scores of participants on each subscale (more specific tinnitus problem) of the TFI, in order of most 'Severe'. On these subscales, all scores indicated that most participants had either a 'Significant problem' with tinnitus or 'Severe tinnitus'. The three highest scoring subscales for older UK veterans were 'Intrusiveness', 'Sense of Control' and 'Auditory'.

Table 3: Tinnitus Functional Index (TFI) mean total score and mean subscale scores.

	Mean/100	**SD**
TFI total score	45.11	23.97
TFI subscales		
Intrusiveness	59.82	24.38
Sense of Control	54.24	29.87
Auditory	51.38	28.56
Relaxation	50.28	26.84
Cognitive	38.13	28.85
Emotional	37.12	30.21
Quality of Life	36.57	28.25
Sleep	35.95	31.37

When compared with a general research population and US veteran population, this data revealed similarities and differences between UK veterans and other research study populations (Table 4). For example, tinnitus symptom severity was higher in aged veterans than in a general (younger) research population (Fackrell et al., 2016), particularly on the subscales that measure tinnitus intrusiveness, and the effect of tinnitus on hearing ability (Auditory).

Compared to US veterans, UK veterans scored higher on the overall TFI score and seven of the eight subscales. Both groups scored the same (38 points) on the subscale that measures the effect of tinnitus on concentration (Cognitive). The biggest difference between US and UK veterans was on the subscale scores for the emotional impact of tinnitus; on this subscale US scores indicated 'Little or no need for intervention', but the UK veterans' score indicated 'Possible need for intervention'. Interestingly, veterans from both the US and the UK scored much lower than a general research population on the subscale that measures the impact of tinnitus on sleep.

The general research population also scored higher than both US and UK veterans on the subscale that measures the impact of tinnitus on relaxation. The biggest difference in scores between UK veterans and a general research population was on the subscale measuring the effects of tinnitus on hearing ability (Auditory), with veterans scoring 'Severe tinnitus' which 'Qualifies for aggressive intervention'.

Table 4: Comparison of TFI scores between UK veterans, a general research population and US veteran population, colour-coded using Henry et al.'s (2016) classification of TFI scores (see table 3). Numbers in bold indicate the highest subscale score across the different samples.

TFI domain	**TFI Scores (mean average)**		
	UK veterans (a)	General UK research population (b)	US veterans (c)
Total TFI score (0-99)	45	41	36
TFI subscale score (0-99)			
Intrusiveness	60	53	51
Sense of Control	54	54	47
Auditory	51	34	41
Relaxation	50	55	41
Cognitive	38	36	38
Emotional	37	30	21
Quality of Life	37	28	24
Sleep	36	50	30

(a) Present study; sample size =125
(b) Fackrell et al., 2016; sample size =283
(c) Henry, 2019; sample size =162

All of the samples' mean scores were categorised as 'Severe' for the 'Intrusiveness' and 'Sense of Control' subscales. The 'Intrusiveness' subscale measures how much tinnitus interferes with everyday lived experiences. This was covered in questions 1-3 on the TFI questionnaire, meaning there could be an order effect on the scoring. On average, however, compared to a general UK research population or US veteran population, UK veterans reported tinnitus to be more disruptive and interfered more in how they live their lives.

When considering the UK veterans' 'Severe' score for 'Sense of Control', theoretical notions about military training in which veterans have been trained to take control of difficult situations could be drawn on. It is important, however, to note that other populations also scored highly on this subscale. Low 'Sense of Control' scores reflect a lack of understanding about tinnitus and how it can be managed to reduce its impact on everyday life.

The 'Emotional' and 'Quality of Life' questionnaire subscales were the only categories in which any of the samples scored the lowest TFI score classification of 'Relatively mild tinnitus' with 'Little or no need for intervention'. Unlike the UK, the US has an established VA system[3] in which tinnitus is recognised as a disability. This can result in the belief that US veterans are held in higher regard within their society than veterans are within the UK. By having a well-established VA health care service, US veterans may feel they have more support available to them, and this could influence the impact of tinnitus on their emotional wellbeing and quality of life.

> "The Americans do look after their veterans, very much." *(UK Veteran)*

The biggest difference across population scores was in hearing ability (Auditory). UK veterans scored 'Severe' which 'Qualifies for aggressive intervention' whilst the UK general research population and US veteran population both had lower scores indicating 'Significant problems with tinnitus' which have a 'Possible need for intervention'. It was expected that there would be some age-related hearing loss amongst the UK veteran sample given they were all aged over 67. There is a relationship between hearing deficit and tinnitus – hearing loss and tinnitus can often be conflated (Hoare et al., 2014). This was reflected within the sample, with many older UK veterans identifying comorbid hearing loss.

[3] Further information available at: www.va.gov/ABOUT_VA/index.asp.

What is the Veterans Affairs system?

The VA is responsible for administering benefit programs for US veterans, their families, and their survivors. These benefits include health care, disability compensation, educational and vocational assistance, home loans and burial benefits.

The VA's vision is:

'To provide veterans the world-class benefits and services they have earned - and to do so by adhering to the highest standards of compassion, commitment, excellence, professionalism, integrity, accountability, and stewardship.'

(US Department of Veterans Affairs, 2016).

Findings from interviews and focus groups

The qualitative data collected during this study could be categorised according to four key themes (Table 5), and within these key themes there were also a number of clear subthemes. It is important to highlight that there was overlap between themes; this is inherent, due to the complexities experienced by the veterans in their everyday lives.

Table 5:

Qualitative Themes

1. Experience of tinnitus
2. Hearing, health and safety
3. Help-seeking barriers
4. Identity and the 'military mind'

Theme 1. Experience of tinnitus

Although each of the participants in the research experienced tinnitus, they experienced it in their individual ways, which reflects the heterogeneous nature of tinnitus. Within the theme 'Experience of tinnitus' were four subthemes: Descriptions of tinnitus sound; Tinnitus impact; Experience of tinnitus management; Health care and other forms of support.

Descriptions of tinnitus sound

Many veterans provided descriptions of how their tinnitus sounded, and how they physically experienced it. Descriptions included but were not limited to "whistling", "turbine", "ocean", and experiencing it as "a high-frequency whistle".

Tinnitus impact

The impact tinnitus had on individuals was linked to the nature of its presentation and how this was experienced. For example, strong reference to the constancy of tinnitus was identified in the data:

> *It's there permanent, it's never away, ringing in my ears all the time.* **V9**[4]
>
> *Constant hissing is always there. Occasionally becomes a low-frequency whistle, which makes me aware when I have pushed the problem to the back of my mind.* **QR**[5]

For many participants, tinnitus was a problem because it acted as a barrier to them enjoying a full social life. One participant identified that their tinnitus worsened at two specific social times:

> *One, when going to the opera and concerts. Two, when the subject of tinnitus arises in conversation …* **QR**
>
> *Just tried to put up with it and ignore it … but you can't.* **V1**

Tinnitus was viewed as an obstacle to maintaining conversations with others, meaning it could disrupt the individual's interactions with other people:

> *I have difficulty hearing what people are saying.* **QR**
>
> *The constant buzzing interferes with my ability to hear conversation clearly.* **QR**
>
> *An annoying distraction in many ways, especially when I'm in conversation, trying to concentrate on something, or just trying to relax.* **QR**

A number of the participants described how their tinnitus impacts negatively on their emotional wellbeing, saying:

> *Intolerable when it is bad.* **V1**
>
> *Becomes unbearable.* **V2**
>
> *Has a detrimental effect on my general demeanour.* **QR**
>
> *Total awareness of ringing in [my] ears and trying to control the anger and frustration that it causes.* **QR**
>
> *Distracting / undermining / no control.* **QR**
>
> *Have got used to it over the years but it is still very annoying.* **QR**

In contrast to the negative impact experienced by some veterans, a small number stated they were able to manage their tinnitus such that it now had little impact on their lives, for example:

> *I am fortunate that it does not bother me.* **QR**
>
> *Initially affected [my] ability to sleep but with time I have adjusted and can manage to ignore most of the time.'* **QR**
>
> *When I do not think about it, I can handle it.* **QR**

Experience of tinnitus management

Some participants had established ways of dealing with their tinnitus, and a variety of coping strategies were employed as tinnitus management techniques, for example:

> Using sound (Sound generators/humming):
>
> *I tried a hearing aid programme, get some white noise in the background. It did work but it was a distraction to other people … I stopped it and went back to my humming.* **V9**
>
> Relying on visual sources of information:
>
> *Like watching the television, I have to have all the writing on all the time.* **V3**
>
> Visualising a story
>
> *I have a method of talking myself to sleep. I have a story I go through and usually half way through the story I'm asleep.* **V11**
>
> Self-healing and spiritualism
>
> *Just sit down, quiet, and you look within. It's like a meditation type of thing, that's all I can explain it as.* **V4**

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[4] V9 is the identifier for the participant - each participant has a unique identifier.

[5] QR stands for questionnaire response and signifies a response from the free-text questions on the survey.

Health care and other forms of support

A common finding was that the veterans had accessed NHS health care for tinnitus. Many respondents identified their local hospital audiology clinic as their point of contact, and some reported visiting their Ear, Nose and Throat department, or a hearing therapist. Some respondents had negative experiences of care with the HCP telling them they would "just have to put up with it". GPs were often viewed as gatekeepers to audiologists:

> *The GP asked me if I was having any problems. I think they give you the MOT and they ask you questions. And I must have given the right answer at some point for her to refer me to hospital.* **V1**

The most common form of treatment option identified was hearing aids, with some identifying these as "for loss of hearing" rather than as treatment for their tinnitus.

Some veterans had learnt to successfully manage their tinnitus with one participant saying:

> *I have become used to living with it and just get on with things. I have hearing aids in both ears which are a great help.* **QR**

Other participants had not benefitted from health care support, with one participant explaining they had tried "everything the NHS has [to offer] which isn't much. The Tinnitus Clinic, acupuncture, hypnotherapy, hearing aids, CR modulator [commercial sound therapy], support group[s]."

While some participants felt they had tried all available treatments and health care options, many had not accessed any forms of health care for their tinnitus. Some stated this was because they had either lost "faith" that there would be any successful treatments, or because they "didn't know that there were any [and] thought that it was incurable".
In contrast, one participant who said "it rules my life" had taken a proactive approach to their health care by self-referring to a hospital unit for mental health support:

> *After having decided to end it all, I managed to sign myself in to a psychiatric hospital and since then (12 years) I have had steady contact with Dr …* **QR**

There was a difference in the access to health care and treatment the veterans had experienced which had led to a variety of support and treatment being sourced.

What veterans want from health care and other forms of support

When asked what health care would be helpful, two themes were prominent in the data. The first focused on the place of technology in tinnitus treatment. Participants considered "noise generators", "noise cancelling hearing aids", and NHS funding for "better hearing aids" could be helpful. The second theme related to information, education and support.

> *I went to a seminar run by your organisation, British Tinnitus Association. I found out an awful lot during that day, and I found it very interesting. I didn't know anything at all before that.* ***But there are still huge gaps. I still don't know enough about it.*** **V1**

Many participants suggested accessible local "workshops" and "support groups", while others suggested better access to hospital audiology departments and specialist tinnitus services was required. One participant felt that it would be helpful to have a dedicated veterans' hospital, as are established in the US.

Social support for tinnitus: what family and friends do, and do well

Family support was often provided in a practical way by the veteran's partner, e.g. allowing subtitles to be used on the television. Their children were often referred to as not providing much support, and sometimes what was offered was not useful.

> *Do their best … don't tell them anything.* **V1**
>
> *Don't want to lumber your kids with your problems [and my wife] has got her own problems.* **V2**
>
> *We have arguments.* **V3**
>
> *The wife's really very understanding. It's the three daughters that [aren't].* **V9**
>
> *One of our daughters will say, 'can we get rid of the subtitles?'* **V9**

Support provided by family and friends was perceived to be minimal by some participants. When asked what support they receive from their family and friends, responses included:

> *Very little. Patience and understanding when [I'm] unable to hear is about the only thing that might help.* **QR**
>
> *As there is nothing one can do about tinnitus you just try and live with the best you can. There is no real support from people around you.* **QR**

There was a challenge in translating to family and friends how the experience of tinnitus impacts the individual and their everyday lives. Many participants reported that those in their social networks had little understanding of their experience of tinnitus:

> ***Whilst friends and family say they understand, I don't think they really do****, which makes things difficult at times and that's where the frustration jumps in.* **QR**

> *It's difficult to get support from anyone because I'm the only one that can hear it.* **QR**

Whilst some veterans had difficulty in communicating their experience of tinnitus to others, others had decided not to even tell their family and friends about their tinnitus:

> *I have not told any of my family of the problem.* **QR**

One reason for this may have been because they did not want to be considered an inconvenience to their relatives or friends:

> *I strive to live as normal a life as possible and burdening my loved ones with it would indicate I was not coping – which would make it worse.* **QR**

These quotes highlight the precarious ways in which those who live with tinnitus have to negotiate whether 'revealing' their experience of tinnitus to those around them would hinder, rather than help, them manage their condition. Many participants decided to not "bother" those around them, and, as one participant stated, he would rather **"just soldier on to the end of the road".**

Theme 2. Hearing, health and safety

Hearing health

The experience of noise in different situations was discussed, with a strong focus on the veteran's time in the armed forces:

> *My background is I've done 34 years in the Army, in the tank regiment. So lots of loud bangs and everything around … So I always put it down to the fact that it was working around weapons that were going off. Because I started off as a tank gunner then I moved into a tank operator and then a tank commander. And then I became a gunner instructor and spent four years at the gunnery school where I was teaching and firing guns every day of the week for four years. So I've always been surrounded by noise.* **V10**

Other employment outside of the military was also acknowledged as a time when the participants had been notably exposed to noise:

> *Working in a foundry which is quite noisy back then.* **V9**

In addition to employment, noise exposure during leisure time and activities were also identified as potentially unhealthy hearing environments or behaviours.

Driving motorcycles for pleasure was acknowledged:

> *Motorcyclists will get it [noise] from the motorcycle engine and the wind noise.* **V4**

Symbolic power of noise in the armed forces

One veteran's opinion of his experience of exposure to noise in the Services was that it was exhilarating, because it had a literal and symbolic power attached to it. He described hearing the engines of the jets he had worked on as a "thrill … excitement … **hearing that noise, it was power**". He furthered this by saying:

> *It's something about it, it just gets to you, and when you were working on them, you thought, oh, lovely. Hearing that noise, it was power. You knew that there was power there, and it was two sorts of power.* ***There was the physical power, and there was the power that you knew when they went off, they might not come back, and therefore, it was the power for, if you like, the country going out.*** **V6**

Health and safety

Many participants believed health and safety concerns and practices had become more prominent and improved since their time in the armed forces. These beliefs were acknowledged in the context of a lack of health and safety policy recognition when they were Service personnel:

> *There was no health and safety briefings.* **V8**

> *Health and safety was something that you paid a bit of lip service to… it's difficult to equate health and safety and working in the military… and particularly then, you know? It was a different environment altogether then. There was none of these sort of, there were no noise levels, nothing.* **V5**

Hearing protection

Veterans identified hearing protection when they were in the Services as inadequate and inaccessible.

> ***We didn't really get the ear protection*** *that we were entitled to or should have looked for. Normally it was* ***just two bits of cotton wool stuck in your ear.*** **V10**

> *You always got hearing defenders, but it was the trouble of getting them in time.* **V4**

> *We wore what they call hard shell protectors [in the Air Force]. It was more a cover than any sound absorption.* **V8**

No training or education about wearing hearing protection was provided during the veterans' times in the armed forces; this resulted in a watch-and-learn approach being adopted:

> *You saw other people wearing these things. So, oh, can I have one of those? It wasn't anything that anybody said you've got to wear them.* **V6**

General health

Participants discussed a variety of other conditions they lived with, including hearing loss, sound intolerance, blood pressure, angina, diabetes, asthma, arthritis, and brain injury. They also discussed other life challenges they faced, such as caring responsibilities for their partner, adjusting to retirement from employment, and financial difficulties.

Theme 3. Help-seeking barriers

No cure means no treatment

Some veterans spoke about there being no cure or treatment for tinnitus, and this being a factor that stopped them from going to their doctor:

> *You can't retard it. You can't slow it down … you can't reduce the volume, so it's pointless. Unless you can come up with some wonder drug, some silver bullet that's going to actually eradicate it. Talking about it and sitting there, like with the nurse … that's fine, it gives you peace of mind, but it doesn't get rid of the problem.* **V2**

Tinnitus and the health help-seeking hierarchy

Another barrier to help-seeking for their tinnitus was the presence of other illnesses or conditions which were prioritised above tinnitus:

> *I've got loads of things wrong with me. So when I noticed that there was a noise in my ears, to be honest, I just said, I've got a noise in my ears. I looked online and I saw that there's absolutely nothing that could be done for it. So I thought, well, there's a bit of a balance here, and* ***I'll think about the other things that are more likely to kill me first…*** **V1**

> *It's not something I would go to the doctor with … I wouldn't want to bother the bloke. I'm sure he's got better things to do with his time.* **V2**

Prevention rather than reaction

Participants suggested that the focus of any intervention should be on preventing serving military personnel from developing tinnitus rather than treating veterans who already have tinnitus:

> *As far as the military, it's prevention, and I think that's where you have to start rather than the other end of the spectrum … Then that would be much money better spent, I think, from trying to cure me, personally.* **V8**

> *One of the ways to do it is to make young soldiers aware of it before they become veterans …* ***Being proactive not reactive.*** **V10**

Age

Age was also a barrier to help-seeking:

> *I don't want to start worrying myself unduly … otherwise you're wishing your bloody life away and I've* ***only got 20 years left.*** **V2**

This quote also illustrates a sense of fear and uncertainty attached to what the future might hold in terms of their experience of tinnitus.

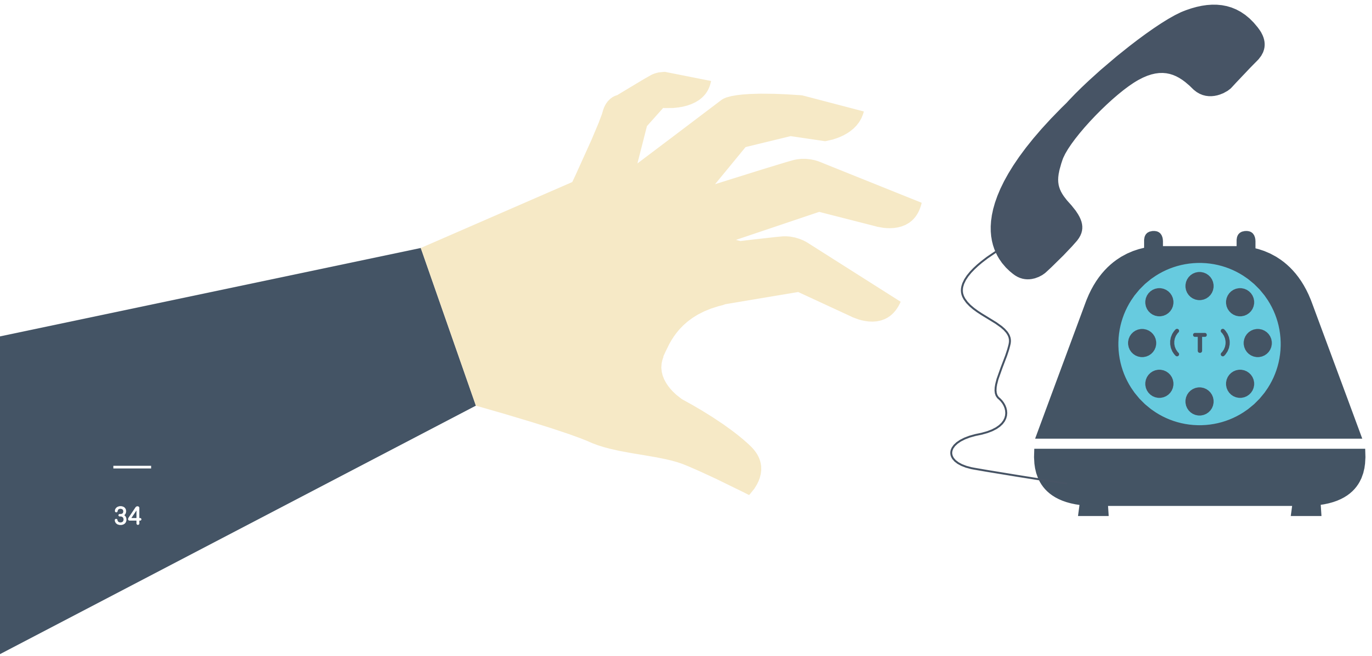
Changes in health perceptions and help-seeking

Veterans perceived that seeking help for health-related issues had become more accepted as 'the norm' nowadays. Veterans drew comparisons between generations, and generally concluded that younger people in today's society are more likely to access health care, and for conditions or symptoms that some veterans did not deem to be worthy of medical attention:

> *It's like going to the doctor. You just get on with it [symptoms of illness], and you put up with it until you're on death's door, then you'd go. Whereas, again, I see these younger people, the slightest cough or cold and they're there.* **V6**

One veteran explicitly mentioned the influence of masculine gendered stereotypes and military cultural identity as barriers to accessing tinnitus health care services:

> ***I don't want to be seen to be a weakling or a wimp*** *… I've suffered from it [tinnitus] now I would think from about 1995, 1996. And this is the first time I've spoken to anybody about it … Because I'm a man.* ***I'm a soldier. You don't talk about wimpy things. Like having a tuning fork in your ear or in your head all the time.*** **V10**



Theme 4. Identity and the 'military mind'

Identity

Participants had varied views about their identities as veterans. These often related to their length and mode of service in the armed forces:

> *I was never involved in any war. I don't deserve a pat on the back.* **V2**

> *I just did National Service.* **V9**

> *You will find it, anybody who's done any length of time will prefer to talk to soldiers or ex-soldiers.* **V10**

Veterans are different to civilians

Throughout the interviews the notion that veterans were different to civilians was present with references to the 'Army mind-set' and 'Army culture':

> *There will be a different language used in an all-military group. I guarantee it. If you try to mix, the civilians will be saying what are you talking about? And the Army people would be saying, what are you talking about? It's terminology, it's language, it's culture.* **V10**

> ***It's the sense of being among like-minded people. The sense of humour. And being back in the Army family.*** **V10**

This difference in culture and identity led to varied opinions about whether - when considering support for veterans – tinnitus services would be better as veteran-specific services, or not:

> *That [standard tinnitus care] would do me just the same. But if there was a veteran [specific] one I'd be happy to join that as well. So, it's no preference for me.* ***But certainly, the fact that it wouldn't be a veterans group wouldn't deter [me] from it*** *as far as I'm concerned.* **V5**

> *Well, my question is, is it only veterans who have got tinnitus?* **V7**

> *Soldiers will talk to soldiers … Soldiers don't talk well to civilians. They don't understand the mind-set.* **V10**

These quotes highlight the range of views which were presented by the veterans who participated in this research.

Acceptance of living with tinnitus

There was a sense that most veterans had come to reluctantly accept living with – and continuing to experience – tinnitus.

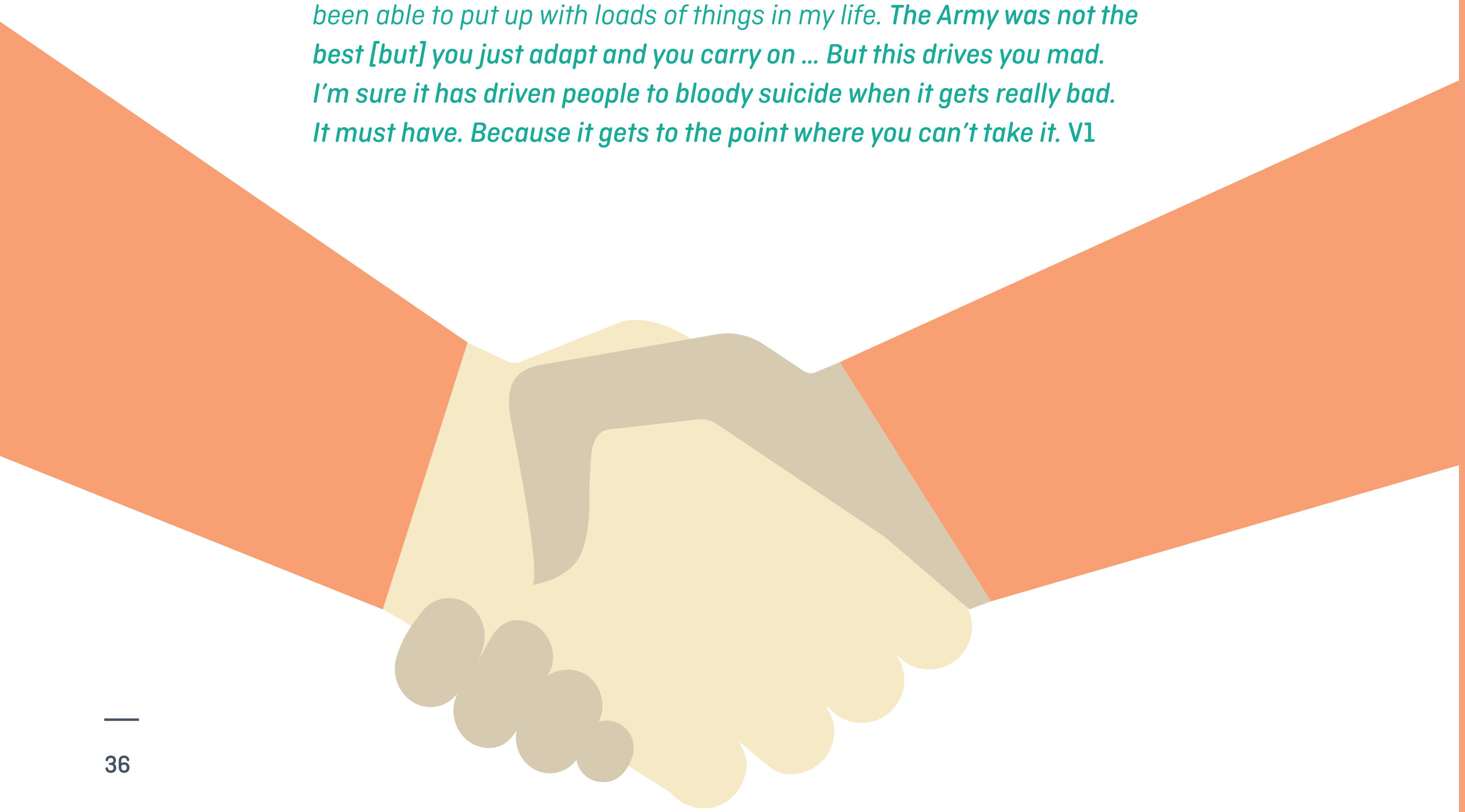
> *The thing is though, you accept it. It's there … It's there all the time. Eventually you got to live with it, you know it's there, you know there's nothing you can do about it. You just accept it and get on with life.* **V4**
>
> *But, as I say, you get used to it. It's like a toothache. You get used to it after a while.* **V10**

This heightened level of acceptance and perseverance was linked to military training and their veteran identify:

> *[As a veteran] you get an acceptance of things which are over and above the norm.* **V8**

In contrast, one participant compared his ability to persevere and survive the armed forces and the challenges it presented with his inability to cope with his tinnitus, as an illustration of how testing he found living with tinnitus. He acknowledged the potential negative impact, the persistent nature of tinnitus, and trying to "live with it", could have on mental health and wellbeing:

> *You can't think straight. You can't do anything. You get very irritable with it. It's so frustrating and so annoying. I mean if it would just give off for a couple of hours and give you a break. But you can't take it. I mean I've been able to put up with loads of things in my life.* ***The Army was not the best [but] you just adapt and you carry on … But this drives you mad. I'm sure it has driven people to bloody suicide when it gets really bad. It must have. Because it gets to the point where you can't take it.*** **V1**



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CONCLUSIONS AND RECOMMENDATIONS

This section provides recommendations for best practice when working with older veterans who have tinnitus. In dealing with the implications of the research findings, the recommendations highlight how service providers can best work with older veterans who have tinnitus, to help them overcome any challenges they may face. These recommendations are relevant to service providers (both public and private) and charities who work with the UK veteran community, older people, and those who have tinnitus.

The recommendations highlight specific needs of older veterans which should be considered by HCPs in addition to the general needs of all tinnitus patients. They consider the challenges faced by older veterans who live with tinnitus, and make recommendations for best practice in navigating these.

1. **Inform:** Share information with the veteran community about what tinnitus is and how it may be experienced.

2. **Prevent** (worsening) tinnitus through training about healthy hearing behaviours with the veteran community.

3. **Encourage** aged veterans to challenge any potential tinnitus help-seeking barriers.

4. **Educate** the public about who is a veteran and the characteristics of the ‘military mind.’

1. Inform: Share information with the veteran community about what tinnitus is and how it may be experienced.

Information-sharing events

Why?

Of those who know what tinnitus is, many veterans are likely to have limited knowledge about it. Veterans may not be familiar with the word ‘tinnitus’, and will be unsure if that is the ‘ringing in their ears’ they have been experiencing. Therefore, the most up-to-date and accurate information about tinnitus, its prevalence, how it may be experienced, and its common comorbidities, should be shared with the veteran community. Increasing veterans’ knowledge of tinnitus could help to alleviate any concerns about the ‘normal’ ways in which tinnitus can be experienced.

> “There are still huge gaps; I still don’t know enough about tinnitus.”

How?

A tinnitus information-sharing event dedicated to the veteran community (veterans and their friends and family) sharing information about what tinnitus is, how it may be experienced, management options, and providing useful signposting to resources. It is important to refer to tinnitus using language which is familiar and understood by all, for example when advertising events use terms like ‘ringing in your ears’ as well as ‘tinnitus’ to ensure all who experience tinnitus can access such events.

Who?

The information-sharing event would be delivered by charities and HCPs who are trained in working with older veterans who have tinnitus.

Support for friends and family

Why?

Veterans who live with tinnitus may be reluctant to be open and share information with their family and friends about how their tinnitus makes them feel and how it impacts on their everyday experiences and relationships. Older veterans’ partners are often their primary source of support and are likely to attend events and medical appointments with them. Ensuring they are more informed about what tinnitus is, and how it can impact on everyday life, could increase their levels of empathy. This in turn would provide veterans with better continued, informal support.

Engaging the patient’s partner, family, and/or friends will help them to understand what tinnitus is, how it can be experienced, and how it can be managed. This could also be helpful if the patient has hearing difficulties, because their partner could help communicate what is being said. After the event, they can assist with the veteran’s management of their tinnitus.

> “Whilst friends and family say they understand; I don't think they really do…”

How?

Charities who work with the veteran community should have resources available for friends and family about how best to support a loved one who is living with tinnitus.

Who?

Charities who work with those living with tinnitus, the veteran community and/or carers.

2. Prevent (worsening) tinnitus through training about healthy hearing behaviours with the veteran community.

Hearing-health workshops

Why?

Some veterans may think 'the damage is already done' with their hearing health, and consequently do not realise that measures can still be taken to **prevent their tinnitus from worsening**. They can avoid making their tinnitus worse by increasing their hearing health awareness and practising healthy hearing behaviours. Given that most older veterans are retired, this recommendation mainly relates to leisure activities, for example, wearing hearing protection when listening to loud music, when at the theatre, or when riding a motorcycle.

How?

Hearing health workshops with older veterans which focus on relapse prevention in which they are:

- Equipped with skills and knowledge to manage their tinnitus
- Educated about common factors which can exacerbate tinnitus
- Reassured by an optimistic and proactive approach to living with tinnitus, in turn challenging concerns about their tinnitus worsening in the future.

Who?

This workshop would be facilitated by a tinnitus advisor with guest talks and activities delivered by audiologists, HCPs, and other experts.

Initial military training

Why?

Many veterans voiced their concerns about current serving personnel and suggested that attention should be focused on prevention of tinnitus in the Services, rather than how to best manage tinnitus for older veterans.

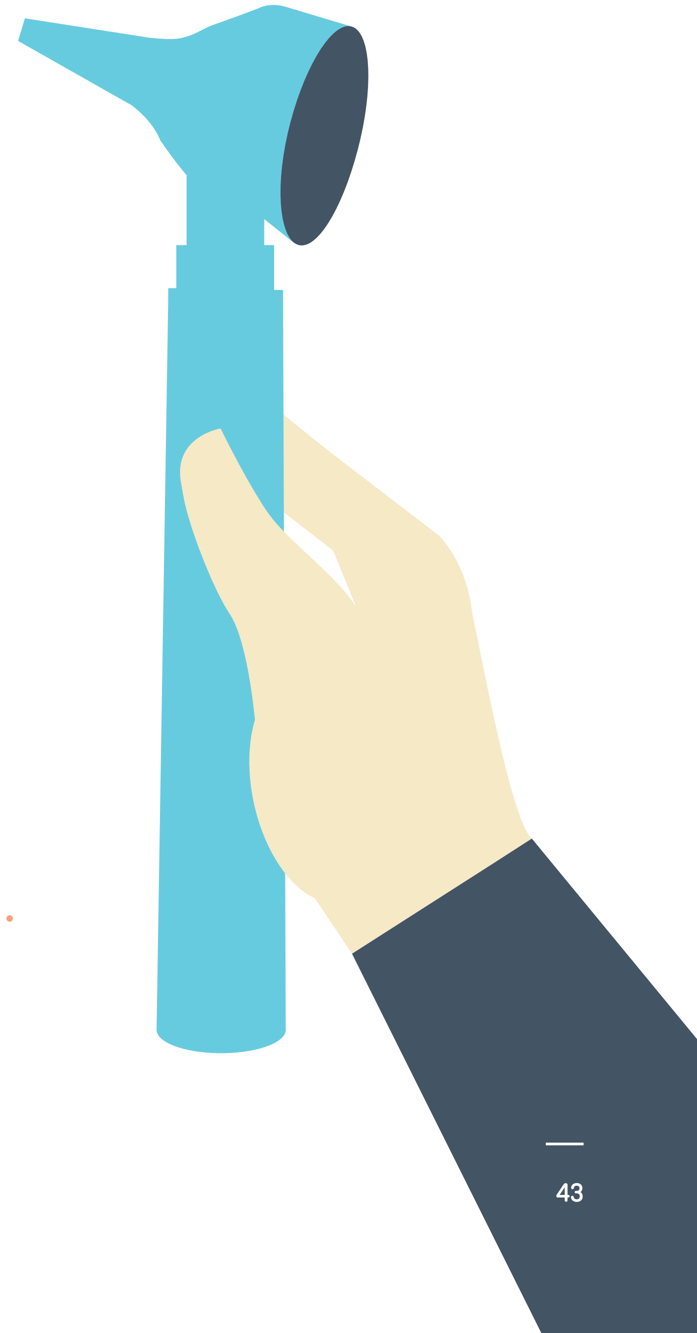
How?

Train current Service personnel about the importance of protecting their hearing health. Ensure information about tinnitus is provided **in the initial military** training all personnel complete, and encourage them to protect their hearing against exposure to noise.

Who?

Older veterans who have tinnitus could teach current serving personnel about the risks of noise exposure, the importance of protecting your hearing, and lessons they have learnt since leaving the forces and learning to live with tinnitus. These sessions should be facilitated by military educators, and HCPs would provide further advice about healthy practices.

> "Make young soldiers aware of it before they become veterans... Being proactive not reactive."



3. Encourage aged veterans to challenge any potential tinnitus help-seeking barriers.

Professional training for working with veterans

Why?

There are many barriers which prevent older veterans from accessing help for their tinnitus. Tinnitus was not viewed as a priority problem in comparison to other health conditions older veterans were living with.

Managing tinnitus could improve quality of life, and have a positive impact on coping with other conditions. HCPs should be aware of the importance of ensuring veterans know they would take their experience of tinnitus seriously and provide them with helpful advice.

> “There’s absolutely nothing that could be done for tinnitus. So, I’ll think about the other things that are more likely to kill me first.”

How?

Ensure there is **access to professional tinnitus training** for HCPs working with veterans.

Who?

HCPs and tinnitus charities.

Positive management messaging

Why?

There is no cure for tinnitus and this can be a barrier to seeking help. Because there is no cure, there is a fear of being dismissed by the HCP. Information about different ways of managing tinnitus could help to portray a positive future where their tinnitus is managed, instead of veterans feeling defeated and that “there’s nothing that can be done”.

How?

In all communications a **positive message** about the future of living with tinnitus should be expressed and accurate information about effective management techniques (i.e. CBT) and helpful strategies provided. As the HCP is what might be the first contact a veteran has made for tinnitus help, it is important to take a positive approach from the outset of discussion. Once in the HCP’s care, they should **encourage veterans to access further healthcare** support for their tinnitus as appropriate (for example, mental health care or ENT/audiology referral).

Who?

HCPs, tinnitus and veteran charities.

Proactive communication

Why?

Many veterans may be too proud to ask for help, so it is important for HCPs to consider the language used when encouraging them to seek help for their tinnitus. Stereotyped thinking about accessing healthcare services which may be present should be challenged, and a more inclusive perspective on help-seeking encouraged. For example, communicating that it takes strength to access healthcare to talk about a condition you would like or need help for could be beneficial for an older veteran.

How?

A **public health campaign**. This could be implemented as adverts in GP surgeries or on public transport. It could also be communicated in **reminder letters** sent to older veterans which encourage them to have a **hearing health check-up** which would include discussion about tinnitus.

Who?

Veteran charities, policy-makers and HCPs.

> "I don't want to be seen to be a weakling or a wimp … I'm a soldier. You don't talk about wimpy things. Like having a tuning fork in your ear or on your head all the time."

4. Educate the public about who is a veteran and the characteristics of the 'military mind.'

Defining a veteran

Why?

There is confusion around who can be defined as a veteran, and there are many different terms used to identify them: ex-Service personnel, ex-soldier, Service leaver. It is important to educate HCPs and the general public about the definition of 'veteran' to help to identify older veterans who are living with tinnitus and who may be in need of help or support.

Many older veterans may not relate to the word 'veteran', so it is important to ask whether they have a history of being in the armed forces. Veterans who have not participated in active duty may also have been exposed to potentially harmful noise levels, for example from gunfire during their initial training. Providing education to patients about whether they qualify as a veteran could open up other routes for help with their tinnitus such as the Veterans Hearing Fund.[6] This fund can provide for tinnitus therapies.

How?

Launch a **public awareness-raising campaign** focused on **identifying what criteria** a person must meet to be considered a veteran. Such a campaign would educate veterans to disclose their veteran status when accessing health care. It would also encourage health care professionals to ask whether their patient is a veteran, so they can be informed about any veteran-specific services which are available.

Who?

Policy-makers and charities that work with veterans and older people.

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[6] Further information available at:
https://support.britishlegion.org.uk/app/answers/detail/a_id/1633/~/veterans-hearing-fund

Veteran-specific services

Why?

Older veterans are at risk of tinnitus given their age and potential exposure to noise during their military service. They are likely to encounter unique challenges in dealing with their tinnitus.

There is an understanding that veterans are different to civilians. However, there are varied opinions about whether veteran-only services would be better than general population services: at least some veterans would prefer a veteran-specific service. A variety of support or treatment options and services should therefore be on offer to veterans. Veterans should be educated about existing services and support options that are available.

> "It's the sense of being among like-minded people … And being back in the army family."

How?

It is recommended that some **veteran-specific tinnitus support services** are offered to accommodate the 'military mind' – the characteristics specific to those who served in the military. An example is the '**By Veterans, For Veterans' tinnitus support group**. This support group would be managed by veterans who have tinnitus, and would enable those who feel more connected to other veterans to learn about their tinnitus and how to manage it from other people with shared backgrounds in the armed forces.

Another veteran-specific tinnitus service which can be offered is a **veteran befriending service**. This can be done from the comfort of the veterans' own home, meaning it is accessible for those who are unable to leave their home. This can also be facilitated via online communications where either veteran is hard of hearing and the telephone is not a suitable option.

Who?

It would be facilitated by charities who work with the veteran community and/or tinnitus community. Local tinnitus support groups, tinnitus events for the general public, and the BTA tinnitus befriending service are all currently available to older veterans. The recommendations for veteran-specific options here refer to the needs of those veterans who feel they are not suited to such general services.

Encouraging action

Why?

While it is important to identify whether someone is a veteran, it should be acknowledged that veterans will have different relationships to their experience in the armed forces. Their preferred approach to tinnitus treatment may be as diverse as their identities as veterans. It is important to ask the veteran how they would like to be identified, and explain that all veterans are entitled to priority access to NHS care for Service-related conditions.

In some cases, tinnitus could have a negative impact on older veterans' mental health and wellbeing. An **'acceptance of things which are over and above the norm'** was identified as a way of thinking which continued beyond military training. This unyielding approach to healthcare could lead to veterans going through a period of difficulty in isolation before reaching a level of tolerance of their tinnitus. The impact that the persistent nature of tinnitus and trying to 'live with it' can have on mental health and wellbeing should be acknowledged where appropriate; in rare cases the impact of tinnitus can lead to thoughts of suicide.

> "But certainly, the fact that it wouldn't be a veterans group wouldn't deter *[me]* from it."

How?

Educate veterans that they do not have to reluctantly accept their tinnitus or simply 'live with it' – they can learn about **coping strategies** which could help them to manage their tinnitus. The Tinnitus Care Decision Aid[7] can be used to guide discussion. Information about mental health, wellbeing and self-care options should be provided where relevant, and the option of either information or a **referral to the Veterans' Mental Health Transition, Intervention and Liaison Service**[8] should be offered to the veteran.

Who?

HCPs

> There are tinnitus management options, veterans should no longer have to "just **soldier on** to the end of the road."

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[7] Available from the BTA and online at: www.tinnitus.org.uk/decision-aid.

[8] Further Information at: www.nhs.uk/using-the-nhs/military-healthcare/priority-nhs-treatment-for-veterans/

There are tinnitus management options, veterans should no longer have to "just **soldier on** to the end of the road."

6

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Participants Consent Form

Title of Study: Establishing the ImpactA and Required Support for Aged Veterans with Tinnitus

REC ref: 17-1805

Name of Researchers:	Chief investigator, Dr Derek Hoare
	Co-investigator, Georgina Burns-O'Connell

Name of Participant:

1. I confirm that I have read and understand the information sheet for the above study which is attached and have had the opportunity to ask questions.
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.
3. I understand that should I withdraw, more than 7 days after the interview/focus group has taken place then the information collected so far cannot be erased and that this information may still be used in the study analysis.
4. I understand that relevant sections of my data collected in the study may be looked at by the research group and by other responsible individuals for monitoring and audit purposes. I give permission for these individuals to have access to these records and to collect, store, analyse and publish information obtained from my participation in this study. I understand that my personal details will be kept confidential.
5. I understand that the interview/focus group will be audio recorded using a digital device and that anonymous direct quotes from the interview may be used in the study reports and publications.
6. I understand that what I say during the focus group/interview will be kept confidential unless I reveal something of concern that may put myself or someone else at any risk. It will then be necessary to report this to the appropriate persons.
7. I understand that information about me recorded during the study will be made anonymous before it is stored. It will be uploaded into a secure database on a computer kept in a secure place. Data will be kept for 7 years after the study has ended and then destroyed.
8. Optional: I agree that my research data may be stored and used in possible future research during and after 7 years, and shared with other researchers including those working outside the University.
9. I agree to take part in the above study.

Name of Participant	Date	Signature
Name of Person taking consent	Date	Signature

Faculty of Medicine & Health Sciences School of Medicine
School of Medicine
University of Nottingham
Medical School
Nottingham, NG7 2UH

Appendix B - Participant Information Sheet

Title of Study: Establishing the Impact and Required Support for Aged Veterans with Tinnitus

Study ID – SAVT, 17-1805

Name of Researcher(s): Chief investigator, Dr Derek Hoare

Co-investigator, Georgina Burns-O'Connell

We would like to invite you to take part in a research study. Before you decide we would like you to understand why the research is being done and what it would involve for you. One of our team will go through the information sheet with you and answer any questions you have. Talk to others about the study if you wish. Ask us if there is anything that is not clear.

What is the purpose of the study?

There is research to show that veterans are more likely to suffer from hearing loss and therefore it is assumed they are also more likely to experience tinnitus. There has been some research in this area carried out in the USA but this is the first project of this size (that we are aware of) to look at the impact of tinnitus on aged veterans in the UK.

The aim of the project is to find out about the impact of tinnitus on aged veterans in the UK and to find out about the support they receive, or might need to help them manage living with tinnitus. This study will explore and record the experiences of UK aged veterans living with tinnitus and to use this information to guide current and future tinnitus support/healthcare services.

Why have I been invited?

You are being invited to take part because you have indicated you are a veteran who experiences tinnitus and you were born before 1st January 1950. We are inviting participants like you to take part to explore the impact of tinnitus on UK veterans, and to find out what support you might like.

Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to complete an online questionnaire, or complete a paper-based questionnaire and return it by post. We will take completion of the questionnaire as consent to participate. If you decide to take part you are still free to withdraw at any time and without giving a reason.

What will happen to me if I take part?

You will be asked about your experiences of living with tinnitus, how you got tinnitus, the support you may have accessed and recommendations for any support you would like to be able to access. The questionnaire should take no longer than 15 minutes to complete, depending on how much you want to write in response to some of the questions. You will only be asked to complete 1 questionnaire and at a time and location that is convenient for you.

What are the possible disadvantages and risks of taking part?

There is potential for participants to notice their tinnitus more after thinking about it when participating in the research. If this happens and the participant requires support they are encouraged to visit their general practitioner, or to contact the British Tinnitus Association on 0800 0180 527.

What are the possible benefits of taking part?

The information we get from your participation in this study may help to inform the development of future support services for veterans with tinnitus.

Will my taking part in the study be kept confidential?

We will follow ethical and legal practice and all information about you will be handled in confidence. . All such data are kept on password-protected databases sitting on a restricted access computer system and any paper information (such as your consent form, contact details and any research questionnaires) would be stored safely in lockable cabinets in a swipe-card secured building and would only be accessed by the research team.

Under UK Data Protection laws the University is the Data Controller (legally responsible for the data security) and the Chief Investigator of this study (named above) is the Data Custodian (manages access to the data). This means we are responsible for looking after your information and using it properly. Your rights to access, change or move your information are limited as we need to manage your information in specific ways to comply with certain laws and for the research to be reliable and accurate. To safeguard your rights we will use the minimum personally – identifiable information possible.

You can find out more about how we use your information and to read our privacy notice at: **www.nottingham.ac.uk/utilities/privacy.aspx.**

Designated individuals of the University of Nottingham may be given access to data for monitoring and/or audit of the study to ensure we are complying with guidelines.

Any information about you which leaves the institution will have your name and address removed (anonymised) and a unique code will be used so that you cannot be recognised from it.

Any personal data (e.g. address, telephone number) will be kept for 5 years after the end of the study so that we are able to contact you about the findings of the study and possible follow-up studies (unless you advise us that you do not wish to be contacted). All other data (research data) will be made anonymous and will be kept securely for 7 years. After this time your data will be disposed of securely. During this time all precautions will be taken by all those involved to maintain your confidentiality, only members of the research team will have access to your personal data.

We would also like to seek your consent so that the research data you have given may be stored and used in possible future research during and after 7 years. This would be used for research in health and social care. Sharing research data is important to allow peer scrutiny, re-use (and therefore avoiding duplication of research) and to understand the bigger picture in particular areas of research. All personal information that could identify you will be removed or changed before information is shared with other researchers or results are made public.

– this is optional (please indicate you agree to this on the consent form).

What will happen if I don't want to carry on with the study?

Your participation is voluntary and you are free to withdraw at any time, without giving any reason should you wish to do so, we recommend doing this within 7 days of completing the questionnaire. After that point, it may not be possible to remove your data from the study, meaning that it may still be used in our analysis. However, if you have any questions please do not hesitate to contact us.

What will happen to the results of the research study

The results from the study will be analysed to see if there are any common experiences amongst UK aged veterans who experience tinnitus. These will be used to develop a report which will include best practice guidelines and recommendations for future services to support veterans and make suggestions for further research that may be needed. The report will be disseminated late 2019. You can request a copy of the report from the research team.

Who is organising and funding the research?

This research is being organised by the University of Nottingham and the British Tinnitus Association, and it is being funded by The Royal British Legion as part of the Aged Veterans Fund which is funded by the Chancellor using LIBOR funds.

Who has reviewed the study?

All research in the University of Nottingham is looked at by independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given favourable opinion by the Faculty of Medicine & Health Sciences (FMHS) Research Ethics Committee.

What if there is a problem?

If you have a concern about any aspect of this study, you should contact the Chief investigator e-mail: derek.hoare@nottingham.ac.uk. The full contact details of the research team are given at the end of this information sheet. If you remain unhappy and wish to complain formally, you should then contact the FMHS Research Ethics Committee Administrator,
c/o The University of Nottingham, Faculty PVC Office, B Floor, Medical School,
Queen's Medical Centre Campus, Nottingham University Hospitals, Nottingham, NG7 2UH
or via Email: **FMHS-ResearchEthics@nottingham.ac.uk**

Please quote ref no: FMHS [insert number here]

Further information and contact details

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Supporting Aged Veterans with Tinnitus, Participant Information Sheet,
Final Version 1.0 01.05.17

Supporting Aged Veterans with Tinnitus Focus Group/Interview Guide

These are the three topics which we predict will be covered in the focus groups/interviews but the final discussions will be informed by the themes which are raised from the questionnaire data and through further discussion with the veteran/tinnitus community.

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1. Aged military veterans' experiences of tinnitus

When did you first develop tinnitus and what do you think caused it?

Has it been diagnosed, if so when and how?

How do you manage it, if at all?

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2. Existing veteran support/healthcare services

What is available to aged veterans in the UK?

What services have you used, if any?

Do you get informal support elsewhere, i.e. friends, family, support groups, online?

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3. Future provision recommendations

what support services/healthcare/treatment would you like to see developed specifically for veterans?

What would these consist of, and why?

How would you access them, and how often?

Appendix A

British aged veterans with tinnitus

Investigators: Chief investigator, Dr Derek Hoare

Co-investigator, Georgina Burns-O'Connell

ID Code:

Date:

This is a questionnaire to explore the impact of tinnitus on aged military veterans. It is being conducted by the British Tinnitus Association in collaboration with University of Nottingham.

This questionnaire is made up of 4 sections: your eligibility, information about you, information about your tinnitus, and information about the impact of tinnitus on veterans' lives.

Thank you for your interest in this research and for offering to share your opinions and experiences about this important topic.

INSTRUCTIONS:

1. Please read the participant information sheet (enclosed) for full details on this project.
2. If you are happy to take part in this study, please complete the eligibility questions.
3. If you are eligible to take part, please continue to answer the general information questions (please note, these are not essential to completing the rest of the questionnaire).
4. Please select one answer for each question on the Tinnitus Functional Index to provide an overview of your tinnitus.
5. Finally, please provide more detailed responses about your experience of living with tinnitus and its impact on you as a veteran.

(T)
British Tinnitus
Association

The University of Nottingham
UNITED KINGDOM · CHINA · MALAYSIA

THE ROYAL BRITISH LEGION

All information you provide in this questionnaire will be treated confidentially.

Are you eligible to take part?

If you answer ‘yes’ to ALL of the following 3 questions, please complete the rest of this questionnaire.

If you answer ‘no’ to ANY of the following 3 questions, then you are not eligible to take part, but we thank you for your time.

The information you provide in this questionnaire will be treated confidentially.

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1. Have you served at least 1 day in Her Majesty’s Armed Forces (British Armed Forces)? This includes surviving World War 2 veterans, those who undertook National Service and other voluntary enlisted veterans.

Yes ☐ No ☐

2. Do you permanently reside in the UK?

Yes ☐ No ☐

3. Were you born before 1st January 1950?

Yes ☐ No ☐

General information about you…

PURPOSE: You will be asked some questions to provide us with some general information about you.

INSTRUCTIONS: Please answer by selecting the response that most suits you. Please note that these questions are optional, you are not required complete these questions in order to complete the rest of the questionnaire.

The information you provide in this questionnaire will be treated confidentially.

4 What is your age?

☐ 68-69 years old
☐ 70-74 years old
☐ 75-79 years old
☐ 80-84 years old
☐ 85-89 years old
☐ 90+ years old

5. Which gender identity do you most identify with?

Female ☐ Male ☐

Other (please specify/describe):

6. Choose one option that best describes your ethnic group or background:

White

☐ 1. English / Welsh / Scottish / Northern Irish / British
☐ 2. Irish
☐ 3. Gypsy or Irish Traveller
☐ 4. Any other White background, please describe:

Mixed / Multiple ethnic groups

☐ 5. White and Black Caribbean
☐ 6. White and Black African
☐ 7. White and Asian
☐ 8. Any other Mixed / Multiple ethnic background, please describe:

Asian / Asian British

☐ 9. Indian
☐ 10. Pakistani
☐ 11. Bangladeshi
☐ 12. Chinese
☐ 13. Any other Asian background, please describe:

Black / African / Caribbean / Black British

☐ 14. African
☐ 15. Caribbean
☐ 16. Any other Black / African / Caribbean background, please describe:

Other ethnic group

☐ 17. Arab
☐ 18. Any other ethnic group, please describe:

7. How long have you had tinnitus?

☐ 1 month or less
☐ 1 year or less
☐ 2-5 years
☐ 6-10 years
☐ 11-20 years
☐ 30+ years

8. Are you a member of the British Tinnitus Association?

Yes ☐ No ☐

Tinnitus Functional Index

This scale measures the severity and impact of your tinnitus.

INSTRUCTIONS: Please read each question below carefully. To answer a question, select ONE of the numbers that is listed for that question, and draw a CIRCLE around it

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Over the PAST WEEK...

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9. What percentage of your time awake were you consciously AWARE OF your tinnitus?

Never aware 0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100% Always aware

10. How STRONG or LOUD was your tinnitus?

Not at all strong/loud 0 1 2 3 4 5 6 7 8 9 10 Extremely strong/loud

11. What percentage of your time awake were you ANNOYED by your tinnitus?

None 0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100% All of the time

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Over the PAST WEEK...

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12. Did you feel IN CONTROL in regard to your tinnitus?

Very much in control 0 1 2 3 4 5 6 7 8 9 10 Never in control

13. How easy was it for you to COPE with your tinnitus?

Very easy to cope 0 1 2 3 4 5 6 7 8 9 10 Ignore

14. How easy was it for you to IGNORE your tinnitus?

Very easy to cope 0 1 2 3 4 5 6 7 8 9 10 Impossible to ignore

Over the PAST WEEK, how much did your tinnitus interfere with...

15. Your ability to CONCENTRATE?

Did not interfere 0 1 2 3 4 5 6 7 8 9 10 Completely interfered

16. Your ability to THINK CLEARLY?

Did not interfere 0 1 2 3 4 5 6 7 8 9 10 Completely interfered

17. Your ability to FOCUS ATTENTION on other things besides your tinnitus?

Did not interfere 0 1 2 3 4 5 6 7 8 9 10 Completely interfered

Over the PAST WEEK...

18. How often did your tinnitus make it difficult to FALL ASLEEP or STAY ASLEEP?

Never had difficulty 0 1 2 3 4 5 6 7 8 9 10 Always had difficulty

19. How often did your tinnitus cause you difficulty in getting AS MUCH SLEEP as you needed?

Never had difficulty 0 1 2 3 4 5 6 7 8 9 10 Always had difficulty

20. How much of the time did your tinnitus keep you from SLEEPING as DEEPLY or as PEACEFULLY as you would have liked?

None of the time 0 1 2 3 4 5 6 7 8 9 10 All of the time

Over the PAST WEEK, how much has your tinnitus interfered with...

21. Your ability to HEAR CLEARLY?

Didn’t Interfere 0 1 2 3 4 5 6 7 8 9 10 Did Interfere

22. Your ability to UNDERSTAND PEOPLE who are talking?

Didn’t Interfere 0 1 2 3 4 5 6 7 8 9 10 Did Interfere

23. Your ability to FOLLOW CONVERSATIONS in a group or at meetings?

Didn’t Interfere 0 1 2 3 4 5 6 7 8 9 10 Did Interfere

Over the PAST WEEK, how much has your tinnitus interfered with...

24. Your QUIET RESTING ACTIVITIES?

Didn’t Interfere 0 1 2 3 4 5 6 7 8 9 10 Did Interfere

25. Your ability to RELAX?

Didn’t Interfere 0 1 2 3 4 5 6 7 8 9 10 Did Interfere

26. Your ability to enjoy “PEACE AND QUIET”?

Didn’t Interfere 0 1 2 3 4 5 6 7 8 9 10 Did Interfere

Over the PAST WEEK, how much has your tinnitus interfered with...

27. Your enjoyment of SOCIAL ACTIVITIES?

Didn't Interfere 0 1 2 3 4 5 6 7 8 9 10 Did Interfere

28. Your ENJOYMENT OF LIFE?

Didn't Interfere 0 1 2 3 4 5 6 7 8 9 10 Did Interfere

29. Your RELATIONSHIPS with family, friends and other people?

Didn't Interfere 0 1 2 3 4 5 6 7 8 9 10 Did Interfere

30. How often did your tinnitus cause you to have difficulty performing your WORK OR OTHER TASKS, such as home maintenance, school work, or caring for children or others?

Never had 0 1 2 3 4 5 6 7 8 9 10 Always had

Over the PAST WEEK...

31. How ANXIOUS or WORRIED has your tinnitus made you feel?

Not at all 0 1 2 3 4 5 6 7 8 9 10 Extremely

32. How BOTHERED or UPSET have you been because of your tinnitus?

Not at all 0 1 2 3 4 5 6 7 8 9 10 Extremely

33. How DEPRESSED were you because of your tinnitus?

Not at all 0 1 2 3 4 5 6 7 8 9 10 Extremely depressed

Further information about your tinnitus

Purpose: We want to understand in detail how tinnitus impacts on military veterans.

Instructions: You will be asked about your tinnitus in more detail. Please answer each question with as much detail as possible. Please write 'NA' if the question is not applicable to you.

The information you provide in this questionnaire will be treated confidentially.

34. What do you think caused your tinnitus?

35. As well as tinnitus what conditions/illnesses (medical or mental health) have you been diagnosed with?

36. Thinking specifically about your tinnitus, in what ways is it a problem to you?

37. What healthcare/treatment or other forms of support for tinnitus have you accessed?

38. What healthcare/treatment or other form of support do you think would be especially helpful for you and other veterans?

39. What support do you have for your tinnitus from those around you (e.g. family and/or friends), and what do you find useful?

40. Would you like to take part in a focus group or an interview to discuss the impact of tinnitus on veterans' lives?

Yes ☐ Please provide your contact details below and we will be in touch with you soon.

No ☐ Please post your questionnaire back to the freepost address.

If you would like to discuss taking part in an interview/focus group please call Georgie on **0114 250 9933** or email **georgina@tinnitus.org.uk**

Contact details

Name:

Age:

Email:

Telephone:

Address:

Please post this questionnaire back to us using our freepost address:

FREEPOST RTKJ-RUYE-LRKR, British Tinnitus Association,
Ground Floor, Unit 5, Acorn Business Park,
Woodseats Close,
Sheffield S8 0TB

If you would like general information about tinnitus please call the British Tinnitus Association helpline on **0800 018 0527**

Are you happy to be contacted via (please circle):

Post YES/NO Email YES/NO Telephone YES/NO Text Message YES/NO

British Tinnitus
Association

To obtain a copy of this report,

visit: **www.tinnitus.org.uk/Pages/Category/veterans**

email: **info@tinnitus.org.uk**

or call: **0114 250 9933**

British Tinnitus Association
Ground Floor, Unit 5, Acorn Business Park,
Woodseats Close, Sheffield S8 0TB

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