

Influence of Traumatic Exposures on Audiologic Management

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Influence of Traumatic Exposures on Audiologic Management

1. Historical dilemma: trauma producing psychological injury in the absence of, or “disproportionate” to, physical injury
2. Traumatic memories and degraded adaptability
3. Clinical data from Mountain Home
4. Management considerations; what we can learn from the trauma literature

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“Soldier’s Heart”

- Jones and Wessely (2005): Review military psychiatry from Boer War through 1st Gulf War
 - Expresses historic difficulty of addressing incapacitating injury unaccompanied by physical wounds
 - The “organic versus psychological” controversy for explaining (and driving administrative responses to) soldiers thus affected continued throughout the 20th century
 - Example: Disordered Action of the Heart (DAH); “irritable heart” or “soldier’s heart” without signs of “valvular disease” and affecting soldiers regardless of combat exposure
 - Attributed to nearly everything but combat stress (i.e., tight belts for equipment, upbringing, physical exertion without recovery time, etc.)

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“Soldier’s Heart”

- Example: Soldier’s Heart related to the “ill-fed, anaemic, undersized and somewhat neurotic lads, which the larger cities produce so plentiful a supply as compared with the sturdy, somewhat lethargic country lad.” (Maclean, 1867; cited in Jones and Wessely)

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“Railway Spine”

- DAH represented unexplained somatic disorder; however, cases of “agitated mental state” required a neurological explanation
- A civil surgeon (Dr. Morgan Finucane, 1900) attached to a military hospital noted, “The nerve symptoms do not bear any ratio to the extent or size of the wounds inflicted...after six months or shorter periods of complete rest and every care, the patient’s nervous system shows no signs of recovering its former steadiness...”
- Also, “...a large number of cases of functional impairment...associated with psychical symptoms akin to nervous shock of those observed after railway accidents.”
- Railway Spine similar to descriptions of PTSD as resulting from, “...hopelessness of escape from danger...The sudden, excessive, exhausting discharge of nervous energy in the excitement, the fright, the horror of the moment, must certainly result in the general weakness more or less marked, more or less enduring.” (Dercum, 1889 in J&W)

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Traumatic Experiences and Memory



- William James (1890):
“An impression may be so exciting emotionally as almost to leave a scar upon the cerebral tissues.”



- Judith Herman (1997) reviewing classical psychoanalysis: “Janet described his hysterical patients as governed by ‘subconscious fixed ideas,’ the memories of traumatic events. Breuer and Freud, in an immortal summation, wrote that ‘hysterics suffer mainly from reminiscences.’”

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Janet, 1919

- Speaking of memory as an action; the action of telling a story:
“A situation has not been satisfactorily liquidated...until we have achieved, not merely an outward reaction through our movements, but also an inward reaction through the words we address to ourselves, through the organization of the recital of the event to others and to ourselves, and through the putting of this recital in its place as one of the chapters of our personal history.” (quoted by Herman; p. 37; Trauma and Recovery)

Benight and Bandura, 2004

- Speaking of self-efficacy as central to recovery:
“People who believe they can surmount their traumatization take a hand in mending their lives rather than have their lives dictated by the adverse circumstances.” (p. 1144)

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Trauma and Self-Efficacy

- Belief (domain-specific confidence) individuals have in their abilities to obtain a set of skills to achieve a certain outcome, including health behaviors (Bandura, 1989, 1997)
 - Patients may, “dwell on their coping deficiencies, magnify the severity of possible threats, and worry about perils that rarely if ever happen”
 - “Goals must be restructured in ways that capitalize on remaining capacities.”
 - “Clinical transactions operate bidirectionally to shape the course of change [affecting both patient and clinician].”
 - “To be effective, health communications should be framed in ways that instill in people the belief they have the capability to alter their health habits, and should instruct them how to do it.”
 - Could training/improving self-efficacy support resilience (“missing” in western society) as specified by James and Wessley?

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Trauma and Self-efficacy

- Breslau (2002)
 - Symptoms linked to specific event(s); reminders impair adaptation/coping/recovery
 - “...coping efficacy made unique contribution to variance in aversive intrusive thoughts and avoidance behavior” (Benight and Bandura, 2004)
 - Tinnitus salience (just as the salience of any sensory event) and traumatic memory may reinforce one another as the patient endeavors to manage symptoms and aversive responses to the environment
 - Traumatic reminders may be linked to nearly any sensory experience (graphic movies, smell of burning food, songs, the sky’s appearance, specific times of day, anniversaries of events, etc) as well as tinnitus serving as the reminder

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Trauma and Self-efficacy

- Nygaard et al., 2007 – investigate changes in PTSD severity and generalized self-efficacy over time
 - Distinguish generalized SE (GSE) from coping SE (CSE)
 - Coping SE more predictive of symptom severity in the first 12 months following trauma (i.e., Bosmans and van der Velden, 2015)
 - GSE appear to contribute more to long-term outcomes
 - Immediate aftermath of trauma associated with reduced GSE
 - “shattering” effect of the trauma? More likely with personal trauma (assault) vs. trauma from natural causes (flood); this finding reminiscent of the value of distinguishing sudden-onset from gradual-onset tinnitus

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Why Is Self-Efficacy Important?

- Patients with high self-efficacy beliefs for skills needed to manage a health condition have been associated with:
 - Increased compliance with treatment/management recommendations
 - Improved subjective and objective outcomes
 - Higher health-related quality of life
 - Persevere in face of difficulty
 - Put forth greater effort in managing challenges
- “Individuals play a proactive role in their [own] adaptation, rather than simply undergo experiences in which environmental stressors act on their personal vulnerabilities.” (Benight and Bandura, 2004; p. 1133)
- Further, “...resilience to adversity relies more on personal enablement than on environmental protectiveness.” Consider avoidance strategies as detriments to progress
 - In sum, Benight and Bandura assert: “enabling mastery experiences is the principal vehicle of personal change. Traumatized individuals avoid reality testing and thus insulate themselves from corrective experiences.” (p. 1144)

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Self-Efficacy and Tinnitus (Smith and Fagelson, 2011)

- Self-efficacy objectives for the patient with hearing loss/tinnitus
 - Mastery Experiences: Identify specific activities for which the patient lacks sense of control (communication, concentration, sleep, etc.) and target intervention accordingly. Support use of masking devices, assistive devices, and/or hearing aids
 - To provide Vicarious Experiences: group sessions, anecdotes/meetings with other patients, review of data
 - Verbal persuasion can focus on education regarding mechanisms, communication strategies, relations to other routine challenges/activities, sleep hygiene, etc.
 - Physiologic and Affective States: Increase sense of control over the influences of hearing loss/tinnitus on daily function and emotions through collaborative counseling, use of hearing aids or assistive devices, and interprofessional approaches when necessary (ie., in cases of co-morbid psychological injury)

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Trauma and Tinnitus

Traumatic events that produce auditory insult raise the probability that individuals will develop tinnitus and/or hearing loss. This does not mean that PTSD causes tinnitus, however circumstance may heighten the probability that they co-occur.

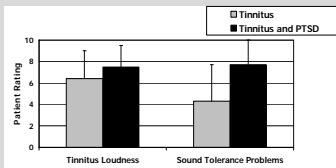
Is trauma-induced tinnitus similar to PTSD in that the severity of early (post-trauma) symptoms is the strongest predictor of symptom severity more than one year later (as discussed by Benight & Harper, 2002; Harnett et al., (in press))?

Are there aspects of patient management/recovery in trauma cases that can be implemented (and justified) for audiologic rehabilitation?

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Clinical Findings:

- Tinnitus-related symptoms that distinguish patients with trauma history/PTSD:
 - 2x more likely to report sudden-onset
 - 3x more likely to report reactive tinnitus
 - Patients with PTSD nearly 4x as likely as those w/ tinnitus alone to state that hyperacusis is a bigger challenge than tinnitus



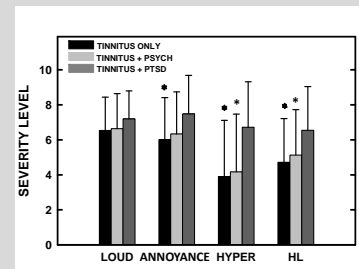
Scores on the THI at intake

N=550	Total	Func.	Cat.	Em.
PT (187):	62.8	28.4	11.6	22.8
T (363):	46.0	21.4	9.0	15.6

Fagelson, 2007; AJA

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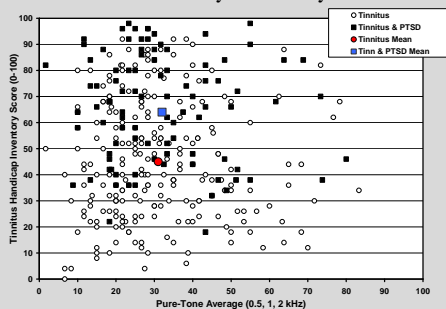
Patient Ratings of Tinnitus/Hearing Symptoms



Fagelson & Smith; Ear and Hearing, 2016

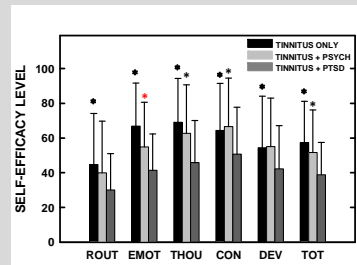
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Perceived Tinnitus Handicap, and Relation to Auditory Sensitivity



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Self-Efficacy for Tinnitus Management Questionnaire Results



* p<0.01 (compared to PTSD group)
 * p<0.01 (compared to the two other groups)

Fagelson & Smith, Ear and Hearing, 2016

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Tinnitus and Trauma: Value of Counseling

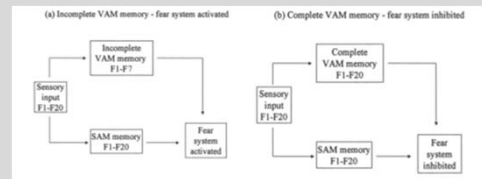
- Primacy of counseling as an element of intervention for tinnitus is well-established; supported by trauma counseling outcomes?
 - Janet, Freud and others report that symptoms of hysteria could be alleviated when the traumatic experiences were put into words
 - Breuer and Freud termed their patient interactions “catharsis” and ultimately “psycho-analysis.” One of Breuer’s more famous patients, Anna O. termed it the “talking cure.”
 - Myers (1916): used hypnosis to recover “repressed trauma” and commented that the patient had to acquire “volitional control” over traumatic memories “if he is to be healed”
 - Consistent with Brewin’s (2001) assertion: Trauma victims must be provided the means to verbalize and provide narratives of their memories, associated cognitive challenges, and sensory distortions

- Addressing military trauma and captivity; Shay (1994): “When the body is tortured or its boundaries are violated.... the body reacts with fear and rage, **and the mind undergoes a distinctive kind of deep learning**. After the danger and violation have passed, the deep learning persists as PTSD symptoms and damage to the best (and most highly valued) character as understood within the culture.” p. 208

Tinnitus, PTSD, and “Deep Learning:” Managing the Fear Response (Brewin, 2001)

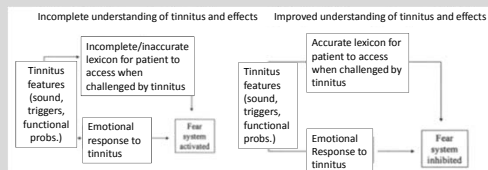
- Brewin specifies two forms of memory relevant to trauma counseling; suggestion here is that Brewin’s model has relevance for tinnitus counseling:
 - Verbally Accessible Memory (VAM) – declarative memory; the production and maintenance of a narrative that facilitates contextualizing the trauma within the person’s autobiographical knowledge base; hippocampal driven
 - Situationally Accessible Memory (SAM) – sensory/visuospatial information and the body’s response to the remembered scene; amygdala driven
 - Emotional/traumatic memories characterized as comprised of “snatches” of narrative interspersed with the emotional response; lack of an informed narrative raises the likelihood that the emotional memory may contribute to a fear response thereby impairing adaptability and function

Brewin, 2001; the value of supporting patient recall and associated narratives



“As the VAM representation grows, fewer trauma [tinnitus] reminders are able to activate the body’s defensive reactions.” (p. 382); Exchange “fewer elements of tinnitus distress” for “fewer trauma reminders”

Brewin, 2001 (adapted); the value of supporting patient understanding of mechanisms and tinnitus facts



Consider the “features” as being associated with tinnitus onset, sound, exacerbators, triggers, understanding of mechanisms, sleep problems, concentration problems, emotional distress, understanding of effects on hearing, etc. “Demystifying” tinnitus, in this schema, should have a similar effect to the counseling targeting the verbally-accessible (narrative) memory that benefits trauma victims.

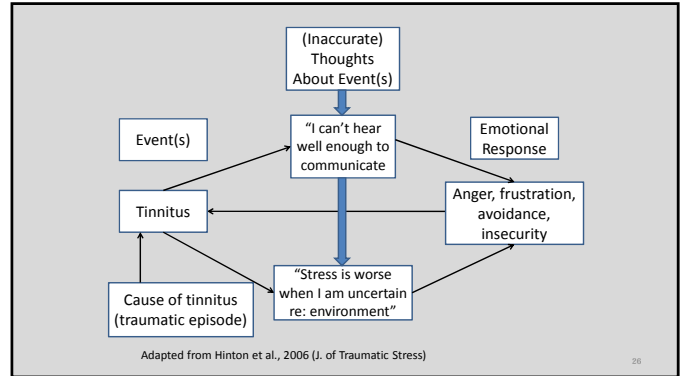
Counseling & Educating the Patient

- CBT is the most widely reported (and successful) veteran PTSD treatment
 - Effective in 60-80% of reported cases
- Also Recommended by Sweetow (1986), Henry & Wilson (2001), Cima et al. (2011) for managing severe tinnitus; currently recommended in AAO Tinnitus Practice Guideline (Tunkel et al., 2014)
- Elements routinely incorporated in fittings of hearing aids, CIs, ALDs in order to foster realistic expectations and adaptability/coping
- Easily incorporates elements of SE training such as coping self-efficacy (i.e., goal-setting, cognitive restructuring, reward systems) intended to support productive mastery experiences

Cognitive-Behavioral Therapy

- Example: Patient who withdraws from activities due to belief that tinnitus ruins all social interactions by impairing communication, or creating uncertainty in challenging environments
 - Patient may also have aversion to crowds due to sense of insecurity, or feeling unsafe
 - If communication is the problem, then communication strategies, hearing aids, rehab may be employed
 - If negative beliefs re: perceptions or intentions of strangers is the problem, then such thoughts can be examined with family members and support group
 - Education re: tinnitus and hearing loss may confirm for pt. that comm. problems are to be expected in the presence of background noise and due solely to tinnitus
 - Patient can benefit from improved 'internal dialogue' and rational approaches to participating in social situations

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Summary

- High prevalence of trauma/mental health disorder/PTSD among civilian and veteran populations has implications for audiologists, their tests, and interpretation of pt. history and complaints
- Trauma-related CNS changes contribute to hyperarousal and mislabeling of sensory information, complicating functional problems, impairing adaptability, and contributing to sensory events such as hyperacusis
 - Essential to manage related avoidance strategies
- Intrusive memories and tinnitus exacerbation may be triggered by sensory events, particularly those associated w/ trauma (unexpected impulse sounds, etc.)
- Providers must prioritize a clinical environment perceived as safe and non-judgmental

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Last Word

- Speaking of much more than (for example) a person's narrative re: the role of tinnitus in their lives; Rushdie, 1991:
 - "Those who do not have power over the story that dominates their lives, power to retell it, to rethink it, deconstruct it, joke about it, and change it as times change, truly are powerless because they cannot think new thoughts." (1000 Days Trapped Inside a Metaphor)

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