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Toward a Treatment Algorithm for Misophonia: Integrating CBT and Pharmacotherapy

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1. Introduction

Misophonia is a condition marked by extreme sensitivity and diminished ability to tolerate specific auditory stimuli and related sensory cues such as breathing and chewing (1). These triggers cause a range of unpleasant responses, including anger, irritation, disgust, and anxiety. In addition to these emotional responses, there is also associated autonomic arousal such as increased muscle tension, heart rate, and sweating (2). These symptoms can lead to significant mental distress and impairment in daily functioning, with severity varying between individuals, contexts, and settings.

The reported incidence rate of misophonia varies due to limited research and the absence of standardized diagnostic tools (3). The symptoms of misophonia are often first observed during childhood or adolescence, a period critical for social and emotional development, and as such this condition can have profound consequences on relationships, academics, and overall quality of life (4). Thus, there is a clear need for the development of a systematic approach to treating individuals with misophonia. Although several studies have explored various treatment modalities, there is no standardized regimen (5). This review therefore proposes a structured, tiered treatment algorithm to act as a conceptual framework and inspire future research on this topic.

2. Discussion

Clinical Overview

While the pathophysiology of misophonia remains unclear, recent studies support that the etiology may be due to aberrant neural connections between auditory and limbic regions of the brain. These connections may cause heightened emotional reactivity to specific sounds and triggers (6). Furthermore, functional imaging studies show hyperactivation of the anterior insular cortex and abnormal salience network processing, suggesting that auditory triggers in individuals with misophonia may be assigned inappropriately elevated emotional significance (6). These findings align with the clinical observation, that individuals with misophonia experience increased emotional and autonomic arousal in response to trigger stimuli.

Individuals with more severe misophonia symptoms reported higher levels of anxiety and depressive symptoms as well as personality disorder traits including borderline and avoidant traits (7). These observations suggest that misophonia may exist within a broader psychological framework of emotional dysregulation and avoidance.

Given these findings and the large range of severity of symptoms for those with misophonia, a multi-tiered treatment algorithm should provide a flexible and pragmatic approach to address the heterogeneity of symptoms while also managing potential treatment side effects.

Proposed Treatment Algorithm

Based on a recent systematic review summarizing the existing interventions for misophonia including interventions such as Cognitive Behavioral Therapy (CBT), pharmacotherapy, and combined treatment approaches (5), this tiered algorithm integrates evidence-based modalities to support clinical decision making:

Tier 1: CBT Monotherapy

The first-line treatment is CBT as it targets maladaptive emotional responses and encourages exposure-based desensitization consistent with the strongest evidence level (Randomized Controlled Trial (RCT)) present in this review. In addition, CBT has the lowest side effect profile, making it an ideal treatment (5).

Tier 2: Selective Serotonin Reuptake Inhibitors (SSRIs) and CBT Combination Therapy:

For individuals with moderate or severe misophonia that do not respond to CBT alone, or that have significant comorbid anxiety and depressive symptoms, SSRIs combined with CBT could be added, to address both misophonia symptoms and comorbid disorders. This approach was effective in individuals that also experienced anxiety, depression, avoidance symptoms, and obsessive-compulsive disorder (OCD), with evidence limited to a handful of case studies. SSRIs likely would not be the ideal first line treatment as there is the potential for side effects such as nausea, appetite changes, decreased libido, QT prolongation, and serotonin syndrome (8).

Tier 3: Adjunctive Pharmacotherapy for Refractory Cases

In refractory cases where misophonia persists despite combined psychotherapy and SSRI

intervention, adjunctive use of benzodiazepines or atypical antipsychotics could potentially be considered, based on limited evidence showing efficacy. This treatment tier is the last line due to the significant lack of RCTs, with the potential for an even greater side effect burden.
Benzodiazepines carry a risk of cognitive, sensory, and motor impairment, as well as a high potential for dependence (9). While atypical antipsychotics are associated with weight gain, QT prolongation, metabolic syndrome, and in some cases extrapyramidal symptoms (10).

3. Conclusion

This proposed three-tiered treatment algorithm offers a structured yet flexible framework for managing misophonia, a condition with significant heterogeneity in symptom presentation and severity. By prioritizing CBT as a first line intervention and escalating to pharmacological treatments, this approach seeks to balance positive clinical outcomes, symptom severity, and minimize the potential side effect burden.
This proposed approach is not without drawbacks. The current evidence base for misophonia interventions remains limited, consisting largely of case studies and small trials. As such, this algorithm should be viewed as a conceptual framework rather than a definitive treatment guideline. Future research, including randomized controlled trials and larger cohort studies are essential to validate these strategies and to refine treatment plans for this understudied condition.

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