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Misophonia: A new mental disorder?

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ABSTRACT

Misophonia, a phenomenon first described in the audiology literature, is characterized by intense emotional reactions (e.g., anger, rage, anxiety, disgust) in response to highly specific sounds, particularly sounds of human origin such as oral or nasal noises made by other people (e.g., chewing, sniffing, slurping, lip smacking). Misophonia is not listed in any of the contemporary psychiatric classification systems. Some investigators have argued that misophonia should be regarded as a new mental disorder, falling within the spectrum of obsessive-compulsive related disorders. Other researchers have disputed this claim. The purpose of this article is to critically examine the proposition that misophonia should be classified as a new mental disorder. The clinical and research literature on misophonia was examined and considered in the context of the broader literature on what constitutes a mental disorder. There have been growing concerns that diagnostic systems such as DSM-5 tend to over-pathologize ordinary quirks and eccentricities. Accordingly, solid evidence is required for proposing a new psychiatric disorder. The available evidence suggests that (a) misophonia meets many of the general criteria for a mental disorder and has some evidence of clinical utility as a diagnostic construct, but (b) the nature and boundaries of the syndrome are unclear; for example, in some cases misophonia might be simply one feature of a broader pattern of sensory intolerance, and (c) considerably more research is required, particularly work concerning diagnostic validity, before misophonia, defined as either as a disorder or as a key feature of some broader syndrome of sensory intolerance, should be considered as a diagnostic construct in the psychiatric nomenclature. A research roadmap is proposed for the systematic evaluation as to whether misophonia should be considered for future editions of DSM or ICD.

Introduction

We live in an era in which the major psychiatric classification systems, such as the successive editions of *DSM*, have been steadily expanding in the number of phenomena that are considered to be mental disorders. This has led to a growing concern that commonplace quirks, eccentricities, or problems of living are becoming over-pathologized and over-diagnosed as mental disorders [1–3]. Accordingly, there is good reason to be skeptical when some new psychiatric disorder is proposed. The purpose of this article is to critically examine the evidence for a purportedly new mental disorder, *misophonia*, characterized by marked distress from hearing particular sounds. Misophonia is not listed in any of the major psychiatric classification systems and, until recently, has received little attention from psychiatric researchers, having been described almost exclusively in the audiology literature.

The question of whether misophonia, or some syndrome in which misophonia is a prominent feature, should be classified as a mental disorder is important for several reasons. The recognition of misophonia as a distinct mental disorder, if indeed it is a disorder, could facilitate recognition of the condition to health-care providers, raise public awareness, provide information and validation to sufferers (i.e., the positive effects of labeling), and could facilitate research and treatment. A disadvantage in classifying misophonia as a mental disorder is the possibility of stigmatizing and over-pathologizing possibly benign eccentricities (i.e., negative effects of labeling). Accordingly, it is important to carefully consider whether misophonia meets criteria for a mental disorder, and whether there is sufficient evidence for clearly specifying its essential features and delineating the boundaries of any syndrome of which it might be a part.

This article begins by defining misophonia and related concepts, and by distinguishing it from other phenomena, particularly phenomena arising from dysfunctions of the primary auditory system. This is followed by a review of the common features of misophonia, as described by case studies, case series, and larger

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investigations. Theories of misophonia are also discussed. Such theories are relevant to the question of whether misophonia is a mental disorder because if it is such a disorder, then it should arise from a psychobiological dysfunction as opposed to some other (e.g., purely audiological) dysfunction. General considerations for diagnosing mental disorders are considered followed by a critical review of the proposals regarding the diagnostic classification of misophonia. Finally, a roadmap for further research is discussed, including research strategies for evaluating the clinical utility of misophonia, or some variant thereof, as a mental disorder.

Definition of concepts

Originally described in the audiology literature, misophonia (literally "hatred of sound") refers to a strong dislike of sounds—particularly oral and nasal sounds produced by other people—accompanied by unusually intense, distressing emotional reactions [4]. Misophonia has also been called "selective sound sensitivity syndrome" and "soft sound sensitivity syndrome" [5]. The latter term emphasizes the finding that some of the distressing sounds in misophonia are soft rather than loud.

Misophonia can be distinguished from hyperacusis and tinnitus. Although there is some confusion in the literature regarding the precise definition of these concepts [6], hyperacusis is commonly defined as a reduced tolerance of loud sounds. Hyperacusis is an auditory disorder where sounds of normal volume are perceived as uncomfortably loud [7]. Unlike misophonia, in hyperacusis the sound's meaning and the context in which it occurs is irrelevant [8]. The perception of excessive loudness in hyperacusis depends only on the physical characteristics of the sound (i.e., its spectrum and intensity).

Tinnitus refers to the perception of a sound (commonly ringing or hissing) in one or both ears, or seeming to originate from inside the head, in the absence of an external acoustic source [9]. In comparison to tinnitus, misophonia is characterized by intolerance of highly specific sounds from an external source. Although they are distinguishable phenomena, misophonia, tinnitus, and hyperacusis can co-occur, particularly in samples obtained from audiology clinics [5,6].

Features of misophonia

Empirical studies

Descriptive data for the present article were obtained from published case studies, case series, and experimental investigations reporting data on cases classified as having misophonia, as identified in searches of PsychInfo and Medline up to March 1, 2017, using the search terms "misophonia", "selective sound sensitivity" and "soft sound sensitivity syndrome". Reference lists of source articles were also searched, along with review articles.

A total of 19 misophonia clinical investigations (case studies or case series) with relevant data were identified, for a total of $N = 247$ cases [5,10–27]. Studies were from the United States (10 studies), the United Kingdom (3 studies), Australia (2 studies), Brazil (2 studies), Canada (1 study), and the Netherlands (1 study). The studies ranged from single case investigations to studies of larger groups of individuals, recruited from audiology clinics or from mental health settings in which the person was seeking treatment for misophonia or for some other clinical problem (e.g., obsessive-compulsive disorder). None of the cases were diagnosed with autism spectrum disorder. The relevance of the latter is discussed later. Given the way in which the data were reported, it was not possible to extract statistical information (e.g., percentages) for the relevant clinical variables. However, it was possible to identify patterns in terms of the nature of distressing stimuli and common reactions to those stimuli. In the sections appearing below, these 19 studies will be collectively referred to as the clinical studies.

In addition to these studies, another relevant investigation [8] included 318 cases of misophonia, but provided little descriptive information about the sample. What relevant information that was provided is discussed later in this article. Another potentially relevant study [28] reported secondary analyses on a sample that was described in an earlier investigation [15]. An analogue study of college students was also identified [29]. Here, questionnaires assessing misophonia and other phenomena were administered to 483 college students.

In the following sections the results from the 19 clinical studies and other investigations are summarized. Emphasis is on the clinical studies of misophonia patients although the findings from the analogue study are also relevant.

Triggering sounds

Almost all of the distressing triggering sounds reported by people with misophonia involved oral or nasal sounds produced by other people, and were typically more distressing when the sounds where produced by familiar others (e.g., family members) than by strangers. The sounds could be loud or soft. The following were the most commonly reported distressing sounds: Chewing (especially with mouth open), crunching of foods, slurping, swallowing, lip smacking, sniffing, throat clearing, and heavy breathing. Other sounds were also sometimes reported as distressing: Pen clicking, dogs barking, babies crying, bus brakes, noisy neighbors, cutlery clinking on plates, clinking glasses, keyboard typing, finger tapping, high-pitched or loud voices, the sound of nail clipping, and the sound of footsteps. Once an offending sound was noticed, people with misophonia typically reported difficulty distracting themselves from the sound. Sounds such as bird song, running water, the ocean, and rain were rarely reported as distressing in these studies and in other clinical accounts [8].

Consistent with the findings of clinical studies, an analogue study using college students [29] found that oral and nasal sounds produced by others tended to be the most distressing, in addition to repetitive pen or foot tapping. For a minority of participants (4%), distressing sounds included particular consonants or vowels (e.g., "k" sounds) and 15% were distressed by particular environmental sounds (e.g., clock ticking, refrigerator humming).

Visual triggers

Some people with misophonia also reported that non-auditory stimuli were distressing. These included visual cues to eating; for example, the sight of lips moving or seeing someone chewing gum, even though the chewing noise was inaudible. Unpleasant sounds tend to be rated as most aversive when accompanied by an image corresponding to the sound (e.g., watching a person chewing loudly while also hearing the chewing sounds) [30]. Accordingly, visual information (e.g., watching someone chewing with their mouth open) appears to be an amplifying factor for misophonia. A number of misophonic people also reported that specific movements unrelated to sounds, made by other people, were distressing; for example, the sight of someone jiggling or swinging their legs, shaking their foot, or twirling their hair.

Emotional reactions

The most common emotional reactions were anger and irritation, with these emotions being particularly intense when the sufferer believed that the person making the offending noise was doing so deliberately or was being inconsiderate or had poor