

Impact of misophonia on sufferers



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Misophonia and its impact on sufferers

Introduction:

Misophonia is a rare disorder in which the sufferer becomes highly sensitive to ordinary day-to-day normal sounds such as sounds of someone eating, breathing, typing on keyboard etc. to the extent that these sounds causes an extreme emotional reaction like anger, , extreme anxiety and sometimes disgust (Taylor, 2017). Since the sounds which cause this emotional reaction are common, misophonia has severe consequences for the personal, family and social life of the sufferer. For example, the sufferer would not sit with other family members to share a meal with other family members because the sounds of eating by others are too distressing (Hocaoglu, 2018); he/she would not use a public transport for travels the sounds of eating/chewing are common at these places (Neal and Cavanna, 2013) and would avoid contact with other co-workers at work place. These responses lead to social isolation which further increases the anxiety in sufferers. Since the condition is not well known among public and not understood clinically, sufferers of this condition do not share their problems with others as they fear that they will be made fun of and therefore suffers lonely. The brain mechanism of misophonia is not understood fully and, therefore, there was no specific cure for misophonia until recently (first scientifically validated treatment for Misophonia was published in 2017; (Schroder et al., 2017)). The situation has changed over the last few years with some specific research on misophonia being conducted that promises a cure for the condition in near future. My objective, in this essay is to discuss the nature of the condition of misophonia with a brief historical review of the

condition. I will illustrate how it impacts the life of sufferers by discussing four case studies. I will then discuss relation of misophonia with other well-known mental disorders such as obsessive compulsive disorder (OCD) (Hocaoglu, 2018). Following this, I will summarize what is currently known about the brain mechanism of misophonia and lastly I will conclude with what are the treatment options available for misophonia currently. . With this essay, I hope to raise public awareness of about misophonia so that sufferers do not feel socially isolated. Increased awareness can also lead to more research and possibly a cure for this condition in the future.

Misophonia: history, reaction and prevalence:

The term ‘ misophonia’ literally means hatred of sounds (‘ miso’ means hatred and ‘ phone’ means sound) and it was used in early research conducted by Jastreboff and Jastreboff in 2001(Jastreboff and Jastreboff, 2001). In their research on phonophobia (fear of sound) and hyperacusis (extreme sensitivity to loud noise), they found that most of their phonophobic patients reacted to the loudness of sounds: louder the sounds, stronger negative emotional response. But there were some patients who were affected even by soft sounds. To these patients, it was not the loudness but the pattern of the sound and the way it was produced mattered more than the loudness. The Jastreboffs argued that these patients need to be distinguished from phonophobia and created the term misophonia. Although the term misophonia means hatred of sounds, it does not mean that the patients hate all types of sounds. It is only certain specific sounds, which are typically oral sounds (eating, drinking sounds or breathing sounds) that the misophonia patients responds negatively to. Within the misophonic

community, these sounds are called as 'trigger sounds' because they react to these sounds 'automatically' without any control over this reaction.

Onset of misophonic response to trigger sounds start early. A questionnaire based study by Kumar et al (Kumar et al., 2014) found that average age of onset of misophonia is 12 years with the youngest age of onset being as low as 6 years. Other studies (Schroder et al., 2013) have also found the age of onset to be similar. Initially, the strong negative emotional response occurs to the sounds produced by a specific family member and gradually expands to sounds produced by strangers. A typical response to trigger sounds is to either avoid the situation (e. g. avoid sharing meals with family members or avoiding association with other people) in which these sounds are produced or to escape from the situation. In situations which cannot be avoided or escaped from, subjects react with strong negative emotions which include anger toward the person making these sounds. Other responses include anxiety and disgust to the sounds. Some patients, particularly in the younger age group, respond violently to the person producing trigger sounds. The response to the trigger sounds has been characterized as a flight-or-fight response (Edelstein et al., 2013) and it can be said that patients perceive trigger sounds as threat. A continuous threat response to trigger sounds can lead to social isolation and case of suicide in subjects suffering from severe misophonia have been reported in media (New York Post, 2016)

The exact prevalence of misophonia is not known at the moment. One reason for this is that no standard diagnostic criteria for misophonia is available (Brout et al., 2018). One study carried out by Wu et al (Wu et al., 2014) found that 20% of undergraduates studying in a US University showed

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mild to severe symptoms of misophonia. A number of surveys have also been conducted by support websites on misophonia (summary of these surveys can be seen on the URL: <https://misophonainstitute.org/prevalence-of-misophonia/>). These surveys show that around 15% of the population suffer from misophonia. This shows that misophonia may not be a rare condition as it is thought to be. As mentioned above, one problem is that of lack of awareness about the condition and hesitance on the part of sufferers to report and share their symptoms with others. The data also shows that there is a greater tendency for women than men to suffer from misophonia.

Case Studies: Misophonia in real life

To illustrate what does it feel like to have misophonia, in this section I will discuss four real life case studies which have been reported in the research papers.

Case Study 1: Misophonia without any other mental disorder

This is a case study reported by (Bernstein et al., 2013). Liz (not real name) is a 19 year old female college student. She was referred to a clinic for her profound irritation to the sounds of other people eating and chewing.

Although she found sounds of strangers and family members equally irritating, she did not react to the strangers sound as vigorously as to the sounds of her own family members. In response to these sounds, she would glare at the person producing trigger sounds or sigh repeatedly in exasperation and would feel an intense desire to scold people. In reality, however, she would not do so as she would like to be compassionate, caring and loving person. She noticed these symptoms in her childhood during

family dinners. Sometimes she would mimic the trigger sound to reduce the distress and to communicate how uncomfortable she felt listening to these sounds. Her family initially thought, ' she was being a brat' and paid not much attention. But after repeated episodes of her distress she was referred to a clinic. She had no history of any other mental disorder.

Case Study 2: Misophonia along with mild depression

This case study was reported by Johnson et al (2013). Maya (not real name) is a 17 year old female who gets highly irritated on listening to trigger sounds. The sounds which triggered her misophonic reaction were: breathing, sniffing and chewing sounds. She started experiencing difficulties with these sounds when she was 9 or 10 years of age. On listening to these sounds, she would become irritated, anxious and show aggression to the person making these sounds. Because of ' fear' of trigger sounds, she would not participate in any social activities in school or home. When she was being examined in a clinic, she asked her mother to move away from her because she could hear her mother breathing and this sound was a trigger to her. The trigger sounds were so much attention catching for her that once she heard these sounds, she could not focus on anything else. In one incident, when she was writing an exam with other students, she held her fingers in ears and started crying because she could not tolerate the sounds of breathing etc. of other students. Interestingly, she could easily tolerate loud sounds, for example in concerts, sporting events etc. Other than misophonia, she had no diagnosis of any other mental disorder except mild depressive symptoms.

Case Study 3: Misophonia along with OCD

This is a case study reported by (Hocaoglu, 2018). The case involves a 20 years old lady called Mrs C. She was diagnosed with OCD when she was 16 years of age. In the clinic she stated she had been bothered by certain sounds such as of somebody chewing, slurping and playing with a keychain since her adolescence. She mentioned that she has not eaten with her family for the last 2 years because of the eating sounds made by her father and that she would eat alone in her bedroom. In school, she would not go to a canteen or restaurant because she was irritated by sounds of eating there. As a protection she would always wear a headphone and listen to music to avoid listening to the trigger sounds. In one situation, she even wore headphone while attending lecture in her class. The teacher got angry and asked her to leave the class. She would not use public transport for fear of trigger sounds and on few occasions when she used shuttle to go from home to school, she would get down half-way because she could not tolerate the sounds made by the fellow passengers.

Case Study 4: Misophonia along with Tourette syndrome

This is a case study reported by Neal and Cavanna (Neal and Cavanna, 2013). The case involves a 52-year old man that was initially diagnosed with Tourette syndrome at the age of 44. Tourette syndrome is a brain disorder which is characterized by involuntary, repetitive, stereotyped movements and vocalizations called tics. His tics mainly consisted of facial grimacing and shoulder shrugging. He had been having these tics since the age of 11. Interestingly, one year before the start of his tics, he started experiencing

annoyance at the sounds of his father chewing food. Throughout he had been irritated by the sounds made by other family members and strangers. He would either challenge people who produce trigger sounds or would indulge in avoidance behaviour. The distress caused by sounds affected his life severely: almost no social contact, would not use public transport for travels. On many occasions, he would have violent thoughts to slap or kick people when they produced trigger sounds although he would not act on these thoughts most of the time.

Misophonia and other disorders:

As discussed in the case studies above, misophonia can occur alone without any other mental disorder or can occur along with well-known disorders. The data collected from 42 misophonia patients in a study (Schroder et al., 2013) show that 24 (52%) of them also suffered from obsessive compulsive personality disorders (OCPD), 3 of them had mood disorders, 2 of them had Tourette syndrome, 1 of them had OCD and 2 of them attention deficit hyperactive disorder (ADHD). It is also believed that OCD and misophonia are closely related. A recent study (Cusack et al., 2018) specifically analysed relation between OCD and misophonia. The results showed that misophonia symptoms were more strongly related to obsessive than to compulsive symptoms. It was also found that anxiety sensitivity and misophonia severity were also related. There is now a debate whether misophonia is a distinct disorder or it can be understood based on the already existing disorders. After carefully analysis of the data, Schroder et al (2013) argued that not all symptoms of misophonia can be explained by the existing disorders and therefore misophonia should be classified as a separate disorder. A paper by

Steven Taylor (Taylor, 2017) discusses this issue at length. While he agrees the need for misophonia to be classified as a distinct disorder, he also stresses that more data need to be collected before the issue is finally decided.

Physiological and brain research on misophonia:

What is happening in the brain of misophonia patients when they listen to trigger sounds? A study by Kumar and colleagues at Newcastle University ((Kumar et al., 2017) attempted to answer this question. They measured brain activity using fMRI (functional magnetic resonance imaging) while misophonic patients were either listening to trigger sounds (sounds of eating, breathing, chewing) or sounds which were not trigger (e. g. rain sound). They also compared the brain activity of misophonia patients with the brain activity of normal control subjects. The study found that the brain areas which are involved in processing of emotions were strongly activated by trigger sounds in misophonia patients. A particular brain area that was hyper active in misophonia patients was anterior insula. This area is known to be involved control of heart rate and physiological changes in the body which are heightened when we process emotions. Kumar et al also showed that anterior insula was weakly connected to frontal part of the brain. The frontal brain is known to be acting like a brake which controls our emotional reaction. In misophonia patients, the control of frontal brain on anterior insula was weak and this could be the reason that they react strongly to trigger sounds.

One more recent study (Schroder et al., 2019) used fMRI to determine how the brain response in patients with misophonia differs from normal control subjects. The study found the anterior insula was more active, as was the finding by Kumar et al (2017), when trigger sounds were played to the misophonia patients. Both of these studies, therefore, confirm that a particular brain area is involved in triggering reaction in misophonia.

The two fMRI studies mentioned above not only measured the brain activity but also measured changes in heart rate. It was found that heart rates of misophonia patients increased while they were listening to trigger sounds. As discussed above, misophonia patients either try to escape from the trigger sounds or they show aggression to the producer of trigger sounds (fight-flight response). The increase in heart rate on listening to trigger sounds enables this response and is consistent with what the patient reports.

Another study by Edelstein and colleagues (Edelstein et al., 2013) measured skin conductance response (SCR) in misophonia patients. The SCR is based on the fact that when we get aroused during episodes of emotions, sweat gland in the skin become active. This release of sweat makes skin more conductive (that is, it allows more current to pass through it). This change in skin conductivity can be measured by attaching two electrodes on the skin of hand (usually on the palm). Edelstein et al showed that misophonia patients had heightened SCR when they were listening to trigger sounds again confirming the fight-flight response in misophonia.

Physiology and brain research into misophonia has just begun: prior to 2017 study by Kumar et al, there was no brain study on misophonia, and in that

sense the study was ground breaking. The brain based research into misophonia has not only helped in furthering our understanding of misophonia but have also helped immensely in raising public awareness about misophonia. Misophonia patients are sometimes not taken seriously by their family members and even by the doctors. These studies have confirmed that what the patients tell about their distress is correct and that they should be treated and taken care of more seriously.

Treatments for Misophonia

Misophonia is a recently discovered condition. One treatment that could help sufferers minimise their symptoms is CBT which stands for Cognitive Behavioural Therapy. The CBT is a type of 'talking therapy' which helps in changing the way we think and respond to a stimulus in the environment and has been used successfully in a number of disorders, for example, anxiety, depression, bipolar disorder and OCD just to name a few. A study by Schroeder et al (Schroeder et al., 2017) showed that CBT is effective in reducing the symptoms of misophonia. They recruited 90 subjects (65 men and 25 women) and measured their initial misophonia severity using a questionnaire (A-MISO-S: Amsterdam Misophonia Scale). They then used four techniques: task concentration exercises, counterconditioning, stimulus manipulation and relaxation exercises as a part of the CBT treatment.

Task concentration exercises helps to improve attention on their triggers. Misophonia patients pay excessive attention to trigger stimuli and this could be a reason for their excessive response. To correct this, in this exercise, subjects pay attention to a different stimulus while a trigger stimulus is

playing. The idea behind counterconditioning is to break any association or conditioning between the stimulus and negative response. The idea is that a pleasant or neutral stimulus when connected with a negative event can produce negative emotional response. The counterconditioning technique can help breaking this link and, therefore, reduce symptoms of misophonia.

In the method used by Schroder

et al, a positive emotional stimulus was presented along with trigger stimulus so that patients make an association or link between trigger and positive stimulus. In the stimulus manipulation, subjects manipulate the trigger stimulus so that they get a feeling of control. A common symptom of misophonia patients is that they lack control over the stimulus and that this uncontrollability makes them anxious which makes the misophonic response stronger. Stimulus manipulation makes misophonic patients feel that they have control over stimulus and thus can reduce anxiety and response to trigger sounds. Finally relaxation techniques can help reduce anxiety and stress levels which are known to boost misophonic response.

After this treatment, Schroeder et al measured misophonia severity again using the A-MISO-S questionnaire. They found that 42 (48%) patients showed reduction in their severity after the treatment. This was the first ever treatment study for misophonia and more research needs to be conducted to further validate the method.

Although other techniques, for example tinnitus retraining therapy (TRT) (Jastreboff, 2015) which were initially developed for tinnitus (ringing of ears),

have also been suggested as treatment options for misophonia, but there is no scientific evidence for it at the moment.

Conclusion

Misophonia is a new and not-so well understood disorder for which research has just started to pick-up momentum. In this essay, I have tried to show that the disorder has huge negative consequences for the sufferer in terms of personal, family and social life. Lack of public awareness and not taking the symptoms of sufferer seriously both by the family members and the doctors further adds to the suffering of patients. Brain based research into misophonia has improved our understanding and showed that there is a brain mechanism that goes wrong in misophonia. This research also suggest that a possible brain based treatment for misophonia is possible in future. Currently, CBT has shown some initial promise for treatment and more research is needed to gain further confidence in its application. Misophonia is not recognized as a separate mental disorder (for example, it is not listed in Diagnostic and Statistical Manual of Mental disorders (DSM V). Greater public awareness would help attract research into this disorder which will help in its formal recognition. I have made a small attempt toward increasing public awareness about misophonia by writing this essay with the hope that more research and treatment option for misophonia will be available in near future which can provide relief to the sufferers.

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