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# Adaptation, Validity, and Reliability of the Turkish version of Misophonia Assessment Questionnaire

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**ABSTRACT**

**Objective:** Misophonia is a disorder in which certain specific patterns of sound provoke a strong negative reaction. This extreme sensitivity to typically ordinary sounds can cause significant disruption to daily life. The aim of this study was to investigate the validity and reliability of the Turkish version of the Misophonia Assessment Questionnaire (MAQ). This will be a useful tool to accurately assess the severity and frequency of misophonia in the Turkish population.

**Materials and Methods:** A total of 210 patients who presented with complaints of misophonia were enrolled in the study. The mean age of the participants was 27.85±9.49 years (range: 18–57 years). The construct validity of the MAQ was determined using exploratory factor analysis (EFA) and the internal consistency was evaluated using the Cronbach alpha value. The concurrent validity of the MAQ was determined based on the directionality of its relationship with a visual analog scale (VAS) and the strength and of the correlation using Pearson's correlation coefficient.

**Results:** The mean MAQ total score was 24.33±13.28. The EFA results revealed a 4-factor structure. The reliability of the instrument was extremely high: the Cronbach alpha for the total scale was 0.94 and subscale values ranged from 0.76 to 0.93. In a test-retest reliability assessment, the intraclass correlation coefficient was 0.970. A significant correlation between the MAQ and VAS scores was demonstrated (r=0.811, p<0.001).

**Conclusion:** The Turkish version of MAQ is reliable and provides a valid scale to measure the impact and severity of misophonia symptoms.

**Keywords:** Misophonia, reliability, self-assessment questionnaire, Turkish, validity

## INTRODUCTION

Some individuals experience abnormally strong negative reactions, such as profound irritation or disgust, to specific trigger sounds. The stimuli often include common sounds made by others in a social context, including chewing, pen-clicking, tapping, or lip-smacking. The audiologist Marsha Johnson first used the term "selective sound sensitivity syndrome" to describe this condition in 1997 (1). However, the term misophonia, recommended by Jastreboff (2) is now more frequently used. The inability to tolerate the triggering sound prompts a fight or flight response that can include physiological arousal, such as increased blood pressure, sweating, excessive emotional responses, anxiety, and explosive outbursts of anger, which can have a significant negative impact on daily life (3, 4).

Although the stimuli can differ from person to person, patients most commonly react to sounds of chewing, eating, swallowing, breathing, crunching, pen-clicking, and clock ticking. Though others may not find these sounds excessive, they can create anxiety, anger, and panic and increase the autonomic response in individuals with misophonia. However, although misophonics react to sounds associated with other people's behavior, some research has found that patients were not disturbed when they produced such sounds themselves (5). Although the prevalence of misophonia remains unclear, some research conducted among a young adult population has estimated a rate of between 6% and 20% (6, 7). Another study of sound intolerance that included tinnitus and hyperacusis noted a rate of 3.2% in the general population (8).

Misophonia and hyperacusis have common features: both produce negative reactions in the patient and are associated with the limbic autonomic nervous system. However, while individuals with misophonia react to specific patterns of sound, those with hyperacusis react to sounds above a certain intensity, and the underlying causes appear to differ (8). The pathophysiology of misophonia is not fully understood, but the auditory system of people with misophonia works normally, and auditory impairment due to neurological dysfunction is not considered to be the cause. One explanation may be aberrant functional connections between the auditory and limbic systems. Signs of increased structural connectivity are similar to what is seen in synesthesia, and misophonia may represent a form of sound-emotion synesthesia (5).

Though feelings on the anger spectrum dominate misophonia reactions, anxiety and other negative reactions and feelings also occur (9). Patients are aware of their extreme reactions, which contributes to their difficulties. Misophonia affects behavioral responses and can lead to avoidance and other effects that can harm interpersonal and professional relationships and a decreased quality of life (7). The severity of the reaction has been associated with reduced cognitive control (10).

A multidisciplinary approach that includes psychiatrists, psychologists, otorhinolaryngologists, and audiologists is recommended to diagnose, evaluate, and manage misophonia. Different fields of study have contributed important information to the knowledge of misophonia in recent decades. The clinical interview plays an important role in the assessment. Most studies use an unstructured clinical interview is used to evaluate misophonia, however, some studies have used the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition Axis I or Axis II information (1, 3, 5, 11). The misophonia diagnostic criteria proposed by Schröder et al. (4) are very useful for recognizing misophonia.

a. The presence or anticipation of a specific sound, produced by a human being (e.g., eating sounds, breathing sounds), provokes an impulsive aversive physical reaction which starts with irritation or disgust that instantaneously becomes anger.

b. This anger initiates a profound sense of loss of self-control with rare but potentially aggressive outbursts.

c. The person recognizes that the anger or disgust is excessive, unreasonable, or out of proportion to the circumstances or the provoking stressor.

d. The individual tends to avoid the misophonic situation, or if he/she does not avoid it, endures encounters with the misophonic sound situation with intense discomfort, anger, or disgust.

e. The individual's anger, disgust, or avoidance causes significant distress (i.e., it bothers the person that he or she has the anger or disgust) or significant interference in the person's day-to-day life. For example, the anger or disgust may make it difficult for the person to perform important tasks at work, meet new friends, attend classes, or interact with others.

f. The person's anger, disgust, and avoidance are not better explained by another disorder, such as obsessive-compulsive disorder (e.g., disgust in someone with an obsession about contamination) or post-traumatic stress disorder (e.g., avoidance of stimuli associated with a trauma related to threatened death, serious injury or threat to the physical integrity of self or others).

Several questionnaires to measure misophonia have been developed, including the Misophonia Assessment Questionnaire (MAQ) (12), the Misophonia Questionnaire (7), the Amsterdam Misophonia Scale (4), the MisoQuest questionnaire (13), and the Misophonia Physical Response Scale (14). The MAQ was developed by Johnson and revised by Dozier to evaluate the severity of the impact of misophonia in adults (12, 15). However, to the best of our knowledge, as yet there is no published research that has analyzed the psychometric properties of this questionnaire. The aim of this study was to investigate the validity and reliability of the Turkish

**Table 1.** Age of misophonia onset and trigger sounds

| Age of onset | n | % | Trigger sounds | % |
|---|---|---|---|---|
| 1 | 27 | 12.9 | Eating | 78.4% |
| 2 | 63 | 30 | Rhythmic | 24.8% |
| 3 | 68 | 32.4 | Scraping | 16.3% |
| 4 | 12 | 5.7 | Throat/nose | 12% |
| 5 | 40 | 19 | | |
| Total | 210 | 100 | | |

1: Entire life; 2: Childhood; 3: Early teenage years; 4: Adulthood; 5: Don't know

version of the MAQ. The ability to provide consistent, accurate data will contribute to the understanding of this condition.

## MATERIALS and METHODS

### Ethical Considerations
Ethics approval for the study was obtained from the Hacettepe University Non-Interventional Clinical Research Ethics Committee on June 18, 2019 (no: 2019/16-06). The study parameters and the term misophonia and how the condition differs from other decreased sound-tolerance problems were explained to the volunteers and all of the participants provided informed consent before the research was initiated.

### Scale Development
After obtaining written permission to adapt the scale from the creator of the MAQ, it was translated into Turkish by 2 audiologists, a psychologist, and an independent bilingual individual who were all blinded to each other's results. The translations were reviewed by the researchers, translated back into English, and compared with the original scale. The translation-back translation process continued until the researchers agreed on a Turkish text that was an appropriate version of the original. Next, 4 clinicians and 10 individuals without any academic title were asked to review the questionnaire to assess the use of common, understandable language. The final version was adopted based on consensus.

### Study Participants
Participants with misophonia complaints who presented at the Hacettepe University Hospital Audiology Department, were referred from psychiatrists, and met Schröder's criteria (4) were included in the study. The patients completed the MAQ questionnaire in the hospital or via the internet.

The sample comprised 210 native Turkish speakers (77.6% female, 22.4% male), with a mean age of 27.85±9.49 years (range: 18–57years). The formal education level of the participants was stratified as university (61.4%), high school (33.4%), and primary school (5.2%). Individuals were excluded from the study if they were under the age of 18 years and had not completed a minimum of primary school.

### Study Procedure
The participants were asked to complete a series of open-ended questions related to the age of onset of misophonia, duration,

**Table 2.** Presence of hearing loss, tinnitus, and hyperacusis

| | Hearing loss | | Tinnitus | | Hyperacusis | | Tinnitus+ Hyperacusis | |
|---|---|---|---|---|---|---|---|---|
| | n | % | n | % | n | % | n | % |
| Yes (+) | 36 | 17.1 | 42 | 20 | 64 | 30.5 | 25 | 11.9 |
| No (-) | 174 | 82.9 | 168 | 80.0 | 167 | 69.5 | 185 | 89.1 |
| Total | 210 | 100 | 210 | 100 | 210 | 100 | 210 | 100 |

**Table 3.** Results of factor analysis of each Turkish MAQ Item

| Items | SD Factor 1 | ED Factor 2 | HA Factor 3 | SoC Factor 4 |
|---|---|---|---|---|
| I10. Misophonia negatively affects my work or school life. | **0.905** | | | |
| I8. Misophonia currently make me feel isolated. | **0.869** | | | |
| I12. Misophonia currently impacts my entire life negatively. | **0.798** | | | |
| I9. Misophonia has recently created problems for me in groups. | **0.780** | | | |
| I19. Misophonia has recently affected my ability to be with other people. | **0.776** | | | |
| I21. I am worried that my whole life will be affected by misophonia. | **0.752** | | | |
| I7. My responses to triggers currently interfere with my social life. | **0.625** | | | |
| I1. Misophonia currently makes me unhappy | | **0.859** | | |
| I2. Misophonia currently creates problems for me. | | **0.751** | | |
| I3. Misophonia has recently made me feel angry. | | **0.728** | | |
| I11. My issues due to misophonia currently make me feel frustrated. | | **0.698** | | |
| I18. Misophonia currently impacts my family relationships. | | **0.479** | 0.304 | |
| I15. I feel that no one can help me with my misophonia. | | | **0.912** | |
| I14. My experience of misophonia is classified as 'crazy'. | | | **0.773** | |
| I20. My experience of misophonia has not been recognized as legitimate. | | | **0.718** | |
| I13. Misophonia has recently caused me to feel guilty. | | | **0.646** | |
| I17. I feel that my misophonia will only get worse with time. | 0.372 | | **0.595** | |
| I16. Misophonia currently makes me feel hopeless. | 0.320 | | **0.493** | |
| I5. My response to certain triggers does not seem to have a known cause. | | | | **0.786** |
| I4. I feel that no one understands my problems caused by misophonia. | | | | **0.782** |
| I6. My response to certain triggers currently make me feel helpless. | | | | **0.721** |
| Initial eigenvalues (% of variance) | 47.54 | 11.18 | 6.71 | 5.20 |

Extraction method: Principal component analysis; Rotation method: Direct oblimin with Kaiser normalization. MAQ: Misophonia Assessment Questionnaire; ED: Emotional distress; SoC: Sense of control; SD: Social distress; HA: Health anxiety

sounds that triggered misophonia, and the presence of hearing impairment, hyperacusis, or tinnitus, and to complete the MAQ, the Generalized Anxiety Disorder-7 (GAD-7), and a visual analog scale (VAS). Two weeks later, 42 randomly selected members of the group (20% of the total participants) completed the MAQ questionnaire again to evaluate the test–retest reliability.

### Misophonia Assessment Questionnaire
The MAQ comprises 21 items about the impact of misophonia on quality of life. It was designed to assess the severity of the condition and how frequently subjects experience related negative thoughts and feelings. A Likert-type scale of 0 (not at all/least) to 3 (all the time/most) is used to score the items, with a possible sum score of 63. The total score is assessed as subclinical (0–11), mild (12–24), moderate (25–37), severe (38–50), or extremely severe (51–63) (15, 16).

### Generalized Anxiety Disorder-7
The GAD-7 is a short self-report measure consisting of 7 items used to evaluate common anxiety disorder (17). Anxiety disorder is defined as intense anxiety about certain events or activities. In this study, the Turkish version of the GAD-7 scale (18) was used as a screening tool for generalized anxiety disorder. The scale uses a Likert-type scale from 0 to 3 (none to almost every day). A total score of 0–4 is interpreted as mild anxiety, 5–9 suggests moderate
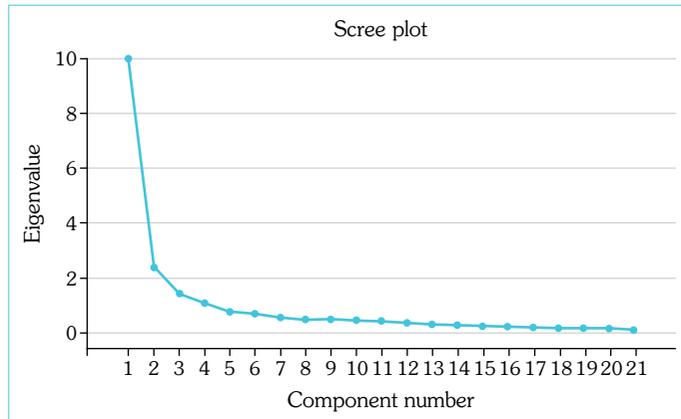
**Figure 1. Scree plot of eigenvalues of Misophonia Assessment Questionnaire factors**

anxiety, 10–14 reflects high anxiety, and 15–21 indicates severe anxiety. The internal consistency of the GAD-7 has been reported to be excellent (original validation study: Cronbach α=0.92) with good test-retest reliability (17).

### Visual Analogue Scale
A VAS is a simple, standardized rating tool originally developed by Freyd (19). Respondents are asked to indicate their response on a visual scale using a continuum of 1 to 10. This study used a VAS scale to measure the participants' discomfort due to misophonia as a means of comparison with the MAQ findings to assess the concurrent validity of the MAQ.

### Statistical Analysis
The statistical analysis was performed using IBM SPSS Statistics for Windows, Version 26.0 software (IBM Corp., Armonk, NY, USA). The mean, SD, and correlation analysis were used to evaluate the psychometric properties of the scale. The Shapiro-Wilk test was used for normality testing. Since there was no available information about the construct validity and subscales of the original MAQ, the construct validity of the scale was examined using exploratory factor analysis (EFA). First, the suitability of the data for factor analysis was examined using the Kaiser-Meyer-Olkin (KMO) coefficient and Bartlett's sphericity test. The concurrent validity of the MAQ was determined based on the strength of agreement with the VAS using Pearson's correlation coefficient. The Cronbach alpha coefficient was calculated to test the reliability of MAQ, and the intraclass coefficient (ICC) was used to examine the test-retest reliability of the items. Pearson's correlation analysis was used to determine whether the MAQ scores correlated with the GAD-7, individual's age, and education level. A p value <0.05 was accepted as statistically significant. A Cronbach alpha coefficient ≥0.70 was considered acceptable consistency. A p value <0.05 was accepted statistically significant.

## RESULTS

A total of 210 patients who had misophonia complaints took part in this study. The mean MAQ score was 24.33±13.28. The scores indicated that the misophonia was mild in approximately half of the patients (49.5%), moderate in 29.5%, severe in 8.1%, extremely severe in 6.7%, and 6.2% were subclinical cases. The sounds that triggered misophonia in the study respondents and

**Table 4.** Internal consistency of MAQ and its subscales

| Dimension | Items | Cronbach alpha |
|---|---|---|
| Emotional distress | I1,I2, I3, I11, I18 | 0.870 |
| Sense of control | I4, I5, I6 | 0.765 |
| Social distress | I7, I8, I9, I10, I12, I19, I21 | 0.931 |
| Health anxiety | I13, I14, I15, I16, I17, I20 | 0.896 |
| Total | | 0.943 |

MAQ: Misophonia Assessment Questionnaire

the age of onset are summarized in Table 1, and the presence of a hearing impairment, hyperacusis, and tinnitus is shown in Table 2.

EFA was used to examine the construct validity of the MAQ. Factor loadings <0.3 were suppressed and were not displayed (20). None of the items was removed, and the factor analysis revealed an eigenvalue of >1 for the 21 items in the MAQ grouped as 4 factors (Table 3). The principal axis factoring extraction method and direct oblimin rotation were used to examine the MAQ data due to the presence of correlated factors (21). A high KMO value of 0.912 was observed, and the Bartlett's test of sphericity result was significant at the 0.05 level ($\chi^2$=3226.99, p=0.001). The 4 factors had an eigenvalue variance of 47.54%, 11.18%, 6.71%, and 5.20%, respectively, and accounted for 70.64% of the total matrix variance after the rotation. The factor analysis of the 21 items yielded a 4-factor result : Emotional distress, Sense of control, Social distress, and Health anxiety. The scree plot in Figure 1 illustrates the rationale to use 4 factors.

The internal consistency of MAQ was excellent (Cronbach alpha=0.943). The Cronbach alpha values of the Turkish MAQ and its subscales are presented in Table 4. The Cronbach alpha coefficient was calculated for each item, and none of the item-total correlations was below the critical value (0.3). The distribution of item-total correlation values is shown in Table 5.

The test-retest reliability results (2 weeks later) indicated high reproducibility, and the ICC result was $R_1$=0.970 (p<0.001). The mean re-test score was 24.54±13.54 among the 42 randomly selected participants, and no statistically significant difference was found between test and retest scores (p=0.177). A Bland-Altman plot shows the agreement between the test and retest MAQ measurements (Fig. 2).

A VAS was used to test the concurrent validity of the Turkish MAQ. There was a positive correlation between the mean VAS (mean: 5.0±2.04) and MAQ scores (r=0.811, p<0.001). The GAD-7 questionnaire was used to assess the anxiety level of the participants. A significant positive correlation was found between the GAD-7 (mean: 8.23±5.18) and MAQ scores (r=0.464, p<0.05), as well as between the GAD-7 and VAS scores (r=0.464, p<0.05). No significant correlation was found between the mean MAQ scores and the age or education level of the participants (p>0.05). There was no significant correlation between age of onset and mean MAQ scores (p>0.05). There was no missing score imputation, and no outliers were removed. The results of the correlational analysis are presented in Table 6.

**Table 5.** MAQ item mean scores, item/total correlations, and alpha coefficient

| Item | Mean±SD | Scale mean if item deleted | Item/total correlation | Alpha coefficient (if item deleted) |
|---|---|---|---|---|
| 1 | 1.45±0.91 | 22.88 | 0.615 | 0.940 |
| 2 | 1.37±0.98 | 22.96 | 0.656 | 0.940 |
| 3 | 1.63±0.97 | 22.70 | 0.540 | 0.942 |
| 4 | 1.50±0.90 | 22.83 | 0.458 | 0.943 |
| 5 | 1.12±0.95 | 22.69 | 0.383 | 0.944 |
| 6 | 1.50±0.92 | 22.82 | 0.549 | 0.941 |
| 7 | 1.12±0.95 | 23.20 | 0.737 | 0.938 |
| 8 | 0.58±0.86 | 23.74 | 0.686 | 0.939 |
| 9 | 1.13±0.94 | 23.19 | 0.714 | 0.939 |
| 10 | 0.89±0.96 | 23.44 | 0.702 | 0.939 |
| 11 | 1.24±0.94 | 23.08 | 0.690 | 0.939 |
| 12 | 0.81±0.94 | 23.51 | 0.755 | 0.938 |
| 13 | 0.74±0.85 | 23.59 | 0.617 | 0.940 |
| 14 | 1.01±0.90 | 23.31 | 0.656 | 0.940 |
| 15 | 1.25±0.94 | 23.08 | 0.584 | 0.941 |
| 16 | 0.93±0.87 | 23.39 | 0.791 | 0.938 |
| 17 | 1.01±0.91 | 23.31 | 0.713 | 0.939 |
| 18 | 1.44±0.95 | 22.89 | 0.631 | 0.940 |
| 19 | 0.87±0.90 | 23.45 | 0.692 | 0.939 |
| 20 | 1.14±0.91 | 23.19 | 0.608 | 0.940 |
| 21 | 1.00±.97 | 23.32 | 0.728 | 0.939 |

MAQ: Misophonia Assessment Questionnaire

**Table 6.** Correlation between total MAQ score and GAD-7, VAS, and severity of misophonia assessed by MAQ

| Total MAQ score | Correlation coefficient | p |
|---|---|---|
| GAD-7 | 0.352 | <0.05* |
| VAS | 0.93 | <0.05* |
| MAQ severity | 0.860 | <0.05* |

*: Correlation is significant at the 0.05 level (2-tailed). MAQ: Misophonia Assessment Questionnaire; GAD-7: Generalized Anxiety Disorder-7; VAS: Visual analog scale
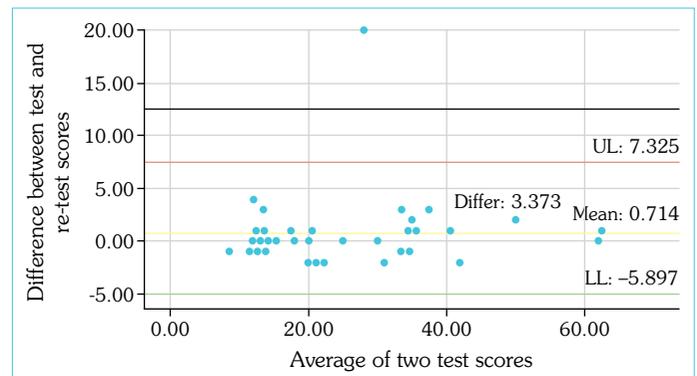


**Figure 2. Agreement between test and re-test Misophonia Assessment Questionnaire measurements (Bland-Altman plot)**
UL: Upper limit; LL: Lower limit

A strong correlation was seen between the MAQ and VAS scores (r=0.811, p<0.001). The mean VAS score, used in this study to reflect patient discomfort, was 5.02. Sanchez (23) used a VAS to define the annoyance level of misophonia patients, and reported that the VAS scores varied from 5 to 10, with a mean score of 7.3.

Misophonia complaints most often begin in childhood or adolescence (1, 4, 11, 24, 25). In our study, 12.9% of participants reported experiencing misophonia for as long as they could remember, 30% claimed their problems began during childhood, 32.4% began experiencing problems during adolescence, and 19% could not recall when symptoms began. These results are consistent with the literature. Our participants were predominantly female (77.6%), but there were no significant gender differences in the total scores of the MAQ and GAD-7 or the age of onset in our study (p>0.05). These findings are consistent with those of Jager et al. (26) and Claiborn et al. (27), who also found no significant sex differences in severity or age of onset. However, Rouw and Erfanian (25) noted greater severity of misophonia symptoms in females compared with males.

Eating sounds, throat noises, and nasal sounds that other people produce are common triggers of misophonia (1, 3, 6, 11, 28). In a study of 575 people, Jager et al. (26) reported that the majority of participants were triggered by eating sounds (96%) followed by nasal and breathing sounds (85%). Participants were also disturbed by repetitive sounds, such as dripping. We observed that the participants in this study were most disturbed by eating sounds, such as mouth-smacking and gum-chewing (78.4%); rhythmic sounds, like a clock ticking or water dripping (24.8%); scraping or creaking

Finally, no statistically significant difference in mean MAQ (p=0.54), GAD-7 (p=0.82), and VAS (p=0.26) scores was found between male and female participants.

## DISCUSSION

We investigated the psychometric properties of the Turkish version of the MAQ with a group diagnosed with misophonia according to Schröder's criteria. Our results showed that the Turkish MAQ had high reliability. The Cronbach alpha coefficient was calculated to be 0.94. A Cronbach alpha value is considered acceptable when >7 and excellent if >9 (22). The expressions used in the Turkish MAQ were all understood by the participants, no items were removed, and no new expressions were added. It was not possible to compare the Turkish MAQ with other questionnaires due to the lack of relevant validation studies.

Four subdimensions were used in the Turkish MAQ: Emotional distress (5 items), Sense of control (3 items), Social distress (7 items), and Health anxiety (6 items). Items 16, 17, and 18 had a factor load of >1 dimension; the dimension with the highest load was selected.

sounds produced by items such as chairs, chalk, pencils, or doors (16.3%); and sneezing or coughing (12%).

Our findings indicated that 14.8% of the participants had severe or extremely severe misophonia. Zhou et al. (6) studied 415 college students and reported that 20% of the participants were sensitive to sounds associated with eating and repetitive tapping, and approximately 6% stated that symptoms of misophonia significantly affected their lives.

When those with misophonia encounter their triggers, they can have a wide variety of reactions, such as anxiety, stress, discomfort, disgust, panic, hate, bursts of anger, and rarely, violence (4). While misophonia complaints appear to be associated with anxiety and anger, ideas differ regarding the influence (6, 7). Dozier and Morrison (29) reported that individuals who suffered from misophonia had a severe increase in anxiety level when they faced trigger stimuli. Similarly, in our study, a moderate positive correlation was found between the GAD-7 and MAQ scores (r=0.464, p<0.05). The mean GAD-7 score was 8.23±5.18, which is higher than the cut-off score of 8 determined by Konkan et al. (18). Daniels et al. (10) found that the severity of misophonia symptoms was associated with increased self-reported anxiety, and observed that it might be related to a higher trait level of anxiety. Yet misophonia appears to be more complex. Some symptoms of misophonia are consistent with those of mental disorders, and misophonia can be seen with post-traumatic stress disorder, attention-deficit/hyperactivity disorder, obsessive-compulsive personality disorder, and depression (25), but the symptomology of misophonia is not compatible with any diagnosis and should be evaluated as a distinctive disorder (4, 7).

Jager et al. (26) detected that 3.5% of participants had hearing impairments; however, in our study, 17.1% of participants reported some hearing loss. Generally, in comparison to hearing loss, co-occurrence of hyperacusis, tinnitus, and misophonia is much higher. Some 60% of individuals with tinnitus were reported to have hyperacusis in one study (30), and another found that 86% of individuals with hyperacusis had tinnitus complaints (31). Jastreboff and Jastreboff (8) reported that 92% of individuals with hyperacusis had misophonia, while 12% with misophonia complained about tinnitus and 4% complained about hyperacusis (25). This differs from our findings. In the present study, 20% of the participants complained about tinnitus and 30.5% complained about hyperacusis, and 11.9% had both. However, it is important to recall that our data depended on self-reporting.

## CONCLUSION

The Turkish MAQ is a suitable instrument to measure the severity and frequency of misophonia symptoms. This study is believed to be the first to evaluate the psychometric properties of the MAQ, and it indicates that the Turkish MAQ offers high reliability and validity for patients with diagnosed misophonia according to Schröder's criteria, suggesting it will be useful in clinical practice. A thorough case history and the use of questionnaires with a multidisciplinary approach and evidence-based methods are recommended in order to understand all aspects of a patient's life that may contribute to misophonia.

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