

The Impact of Eating Disorders on Oral Health

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ABSTRACT: Eating disorders, such as anorexia nervosa, bulimia nervosa, and binge eating disorder, are complex mental health conditions that significantly affect not only overall physical health but also oral health. The behavioral patterns associated with these disorders—such as recurrent vomiting, severe food restriction, or compensatory behaviors—can lead to various oral cavity complications.

KEYWORDS: Anorexia nervosa, Bulimia nervosa, Orthorexia, Eating disorder, Binge eating episodes

I. INTRODUCTION

Relevance of the Study

Oral health is a fundamental component of overall human well-being and is considered a reliable indicator of systemic health. The oral cavity can often be the first site where various systemic disorders manifest, including endocrine, renal, gastrointestinal, cardiovascular, hematological, autoimmune, and psychosomatic conditions (Murray & Kaye, 2023). Eating disorders are no exception—in many cases, the oral cavity may be the only site where clinical signs of these disorders are observed (Robinson et al., 2023).

Statistics indicate that eating disorders are associated with one of the highest mortality rates among all mental health conditions (Barakat et al., 2022). For instance, anorexia nervosa has the highest mortality rate of any psychiatric illness, underscoring the critical importance of early diagnosis and interdisciplinary treatment. The prevalence of anorexia nervosa and bulimia nervosa is 3 to 10 times higher among women than men. This disparity is believed to be associated with greater body dissatisfaction among women and more frequent engagement in weight control behaviors. Contributing factors include the prevailing “thinness ideal” in society, which is reinforced by social media, mass media, the fashion industry, and popular culture. These influences play a significant role in the onset, exacerbation, and persistence of eating disorders (Hatoum et al., 2025).

Research Problem

Eating disorders are complex psychiatric conditions that not only affect systemic health but also have a significant impact on oral health. Repetitive behaviors associated with these disorders—such as self-induced vomiting, dietary restrictions, and nutritional deficiencies—can lead to dental erosion, caries, periodontal diseases, and salivary gland dysfunction (Peres et al., 2021). Despite the growing recognition of these oral manifestations, they are often overlooked in clinical practice, particularly by dental professionals who may lack sufficient training to identify the signs of eating disorders.

Moreover, the oral cavity may serve as one of the earliest and most visible sites of systemic manifestations of eating disorders, offering a unique opportunity for early detection and intervention (Robinson et al., 2023).

Novelty of the Study

International research indicates that disorders such as anorexia nervosa, bulimia nervosa, and binge eating episodes have a significant impact on oral health—leading to dental erosion, caries, periodontal diseases, and salivary gland dysfunction (Peres et al., 2021). Nevertheless, oral health professionals are often not adequately trained to recognize the signs of these disorders, resulting in delayed diagnosis and insufficient patient care (Robinson et al., 2023).

Globally, an increasing number of studies are examining the cultural, social, and psychological factors influencing the prevalence and manifestation of eating disorders across different populations (Kokaze & Pike, 2024). There is also a growing body of research analyzing the role of social media, body image, and weight-related stigma in the development, persistence, and exacerbation of eating disorders (Hatoum et al., 2025).

In Lithuania, relatively few studies have addressed this topic, and most have focused on psychological or social dimensions. For example, Paluckaitė (2021) investigated the relationship between perfectionism, self-objectification, and the risk of eating disorders among young women, while Pekoriūtė (2018) analyzed the links between body dissatisfaction, weight stigma, and disordered eating

The Impact of Eating Disorders on Oral Health

behaviors. However, the impact of eating disorders on oral health remains underexplored in Lithuania, highlighting a clear research gap and the need for more interdisciplinary studies in this field.

Research Objective: To investigate the impact of eating disorders on oral health.

Research Tasks:

1. To identify the types of oral damage experienced by individuals with eating disorders.
2. To examine the behavior of respondents with eating disorders after vomiting.
3. To determine the frequency of visits to oral health professionals among respondents with eating disorders

II. METHODS

Sample Size The study sample was formed using a “convenience non-probability sampling method”. A total of 102 participants were included in the study. The sample consisted of individuals who had experienced eating disorders and reported their oral hygiene habits by responding to an online questionnaire hosted on the website www.apklausa.lt.

Sampling Method Participants were individuals who either currently have or have previously experienced eating disorders and were willing to share how they maintained their oral health. The age of the respondents ranged from 16 to 64 years.

Data Collection Methods To explore the topic, a quantitative research method was chosen, as it allows for more precise data collection, is more convenient for respondents, and facilitates comparison of responses when predefined answer options are provided. The study employed a structured questionnaire consisting of 26 questions. The main aim of the quantitative approach was to summarize data in order to assess the oral hygiene habits of individuals with eating disorders.

Data Analysis Method The results were analyzed using Microsoft Office Excel 2015. The data are presented in absolute numbers and percentages, followed by summarization and comparison with findings from other scientific studies. Conclusions were drawn based on the analysis.

III. RESULTS AND DISCUSSION

The study included 59 women (57.8%), 42 men (41.2%), and 1 respondent who selected the answer option “Other.” Most respondents were between 21 and 30 years old. The majority of respondents lived in cities and towns. **Education Level of Respondents:** Most respondents had higher education – 38.24%, 35.29% had secondary education and 26.47% had post-secondary (college-level) education.

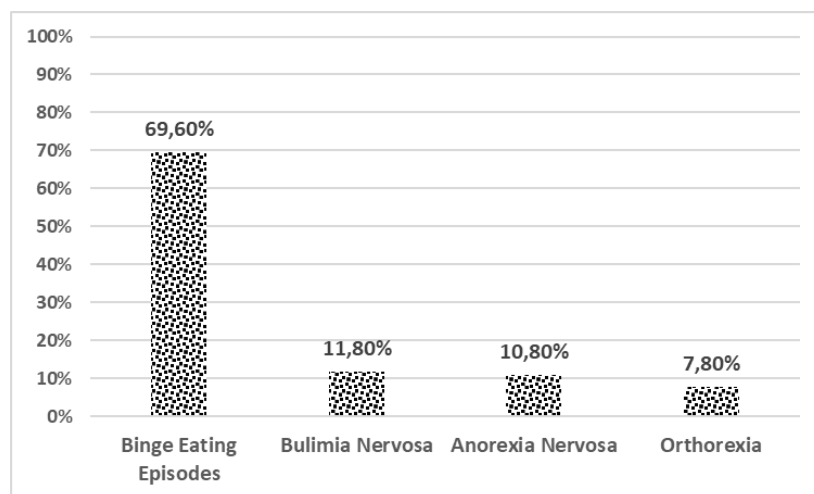


Figure 1. Distribution of respondents by type of eating disorder (percentage)

The distribution of eating disorders among respondents was uneven. The most prevalent condition was binge eating episodes, reported by 69.6% of participants. Smaller groups identified with bulimia (11.8%), anorexia (10.8%), and orthorexia (7.8%), with only 8 individuals selecting the latter. These results are illustrated in Figure 1.

International research confirms that binge eating disorder (BED) is among the most common eating disorders, particularly in adolescence and young adulthood, and is frequently associated with psychological difficulties such as depression, anxiety, and emotional dysregulation (Marzilli et al., 2022). Tan et al. (2023) emphasize that eating disorders often co-occur with other mental health conditions, including ADHD, obsessive-compulsive disorder, and social anxiety. Attia and Walsh (2025) highlight anorexia nervosa as one of the most severe disorders, with high mortality and suicide risk.

The Impact of Eating Disorders on Oral Health

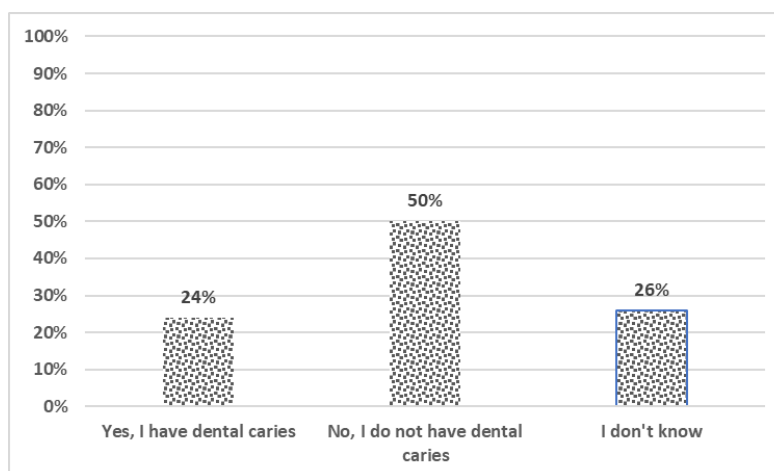


Figure 2. Distribution of subjects by the occurrence of dental caries in individuals with eating disorders (percent).

As part of the study, respondents were asked whether they experienced dental caries during the course of an eating disorder. 50% of participants reported no occurrence of caries, 26% (27 respondents) stated that they did not know, and the remaining 24% indicated that they had noticed the development of caries during the period of their eating disorder. The distribution of responses is illustrated in Figure 2.

Scientific research confirms that eating disorders—particularly bulimia nervosa and anorexia nervosa—are associated with an increased risk of dental caries, erosion, gingivitis, and other oral health complications. In a systematic review, Valeriani et al. (2024) noted that individuals with eating disorders frequently experience tooth erosion, caries, reduced salivary flow, and mucosal changes, which may be critical for early diagnosis.

Paszynska et al. (2022) found that children and adolescents with anorexia nervosa had significantly more caries-affected teeth (as measured by the DMFT index), a higher prevalence of tooth erosion, and poorer oral hygiene compared to the control group

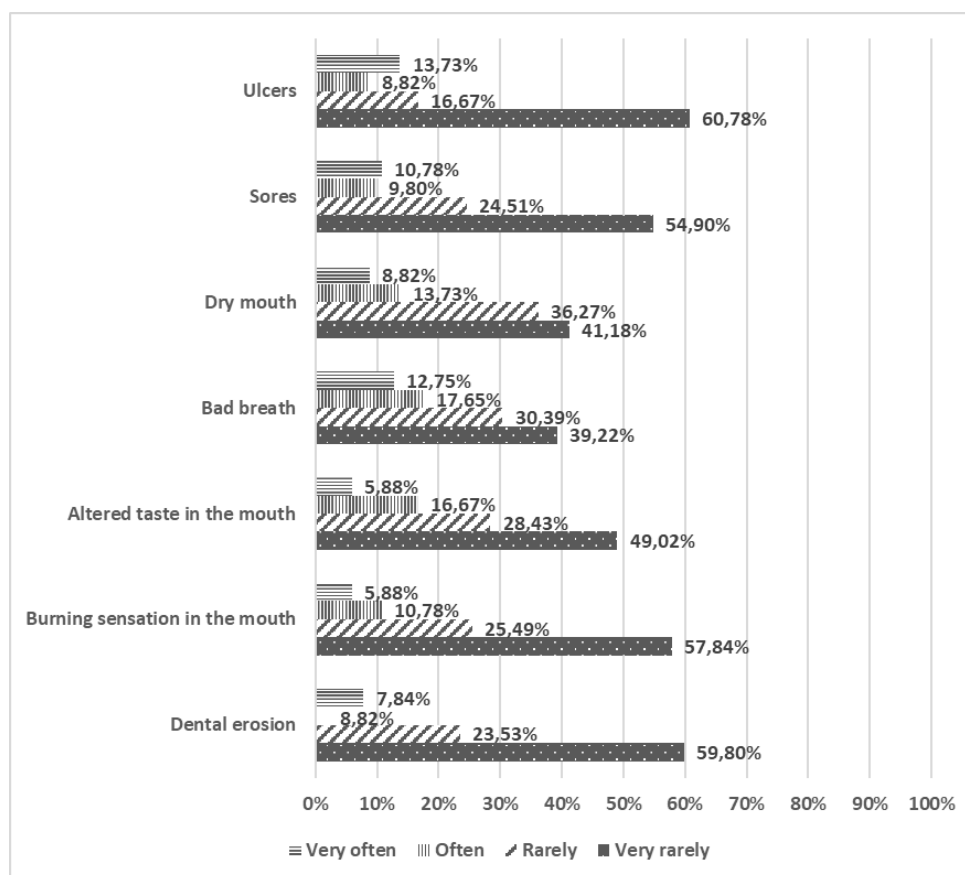


Figure 3. Oral changes observed by respondents with bulimia (percentage).

Research data show that respondents with bulimia most commonly experienced the following oral symptoms: bad breath (30.4% – rarely, 17.7% – often, 12.8% – very often), dry mouth (36.7% – rarely, 13.7% – often, 8.8% – very often), mouth sores (24.5% –

The Impact of Eating Disorders on Oral Health

rarely, 9.8% – often, 13.7% – very often), and ulcers (16.7% – rarely, 8.8% – often, 13.7% – very often). These symptoms were reported by 9 to 14 respondents. The distribution of results is presented in Figure 3.

Scientific studies confirm that bulimia nervosa often causes dental erosion, mucosal damage, dry mouth, increased salivary gland activity, and bad breath, especially due to repeated vomiting and poor oral hygiene. Valeriani et al. (2024) note that these symptoms may be important for the early diagnosis of eating disorders.

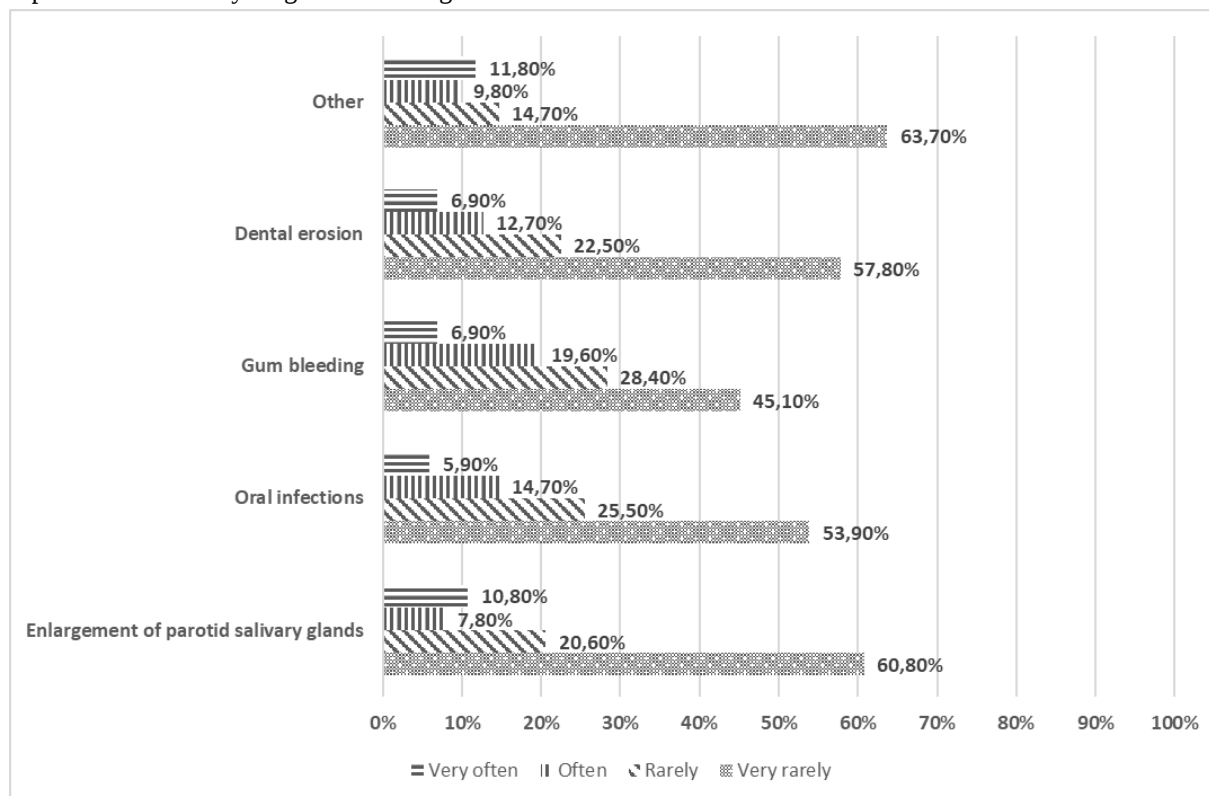


Figure 4. Oral changes observed by respondents with anorexia (percentage).

Research data indicate that individuals with anorexia nervosa frequently experience oral health impairments, although the prevalence varies. Enlargement of the parotid salivary glands was reported as very rare by 60.8% of respondents; however, 18.6% identified it as frequent or very frequent, with 11 individuals confirming this symptom. Scientific studies support the association between parotidomegaly and eating disorders, particularly anorexia and bulimia, and suggest that interventional sialendoscopy may be an effective treatment (Colella et al., 2021).

Oral infections and gingival bleeding were also noted by a portion of respondents—20.6% and 26.5%, respectively, described these symptoms as frequent or very frequent. A systematic review found that patients with anorexia nervosa are more likely to exhibit signs of gingivitis, increased bleeding on probing, and dental erosion compared to control groups (Paszynska et al., 2022).

Dental erosion was reported as frequent or very frequent by 19.6% of respondents. Research confirms a strong correlation between eating disorders and dental erosion, primarily due to repeated vomiting and acid exposure affecting the oral mucosa (Valeriani et al., 2024). The distribution of results is presented in Figure 4.

The Impact of Eating Disorders on Oral Health

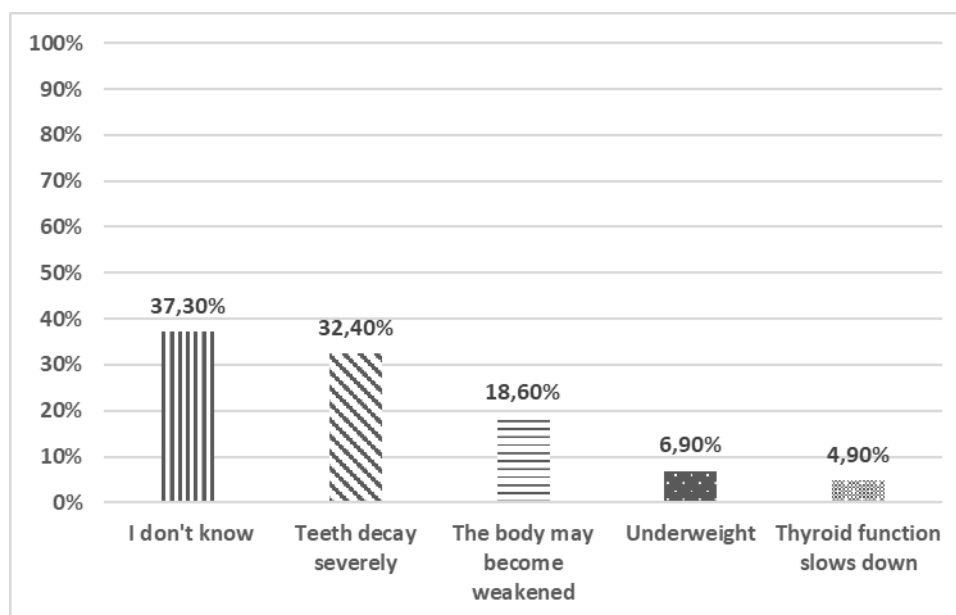


Figure 5. Distribution of respondents' opinions on the impact of eating disorders on oral health (percentage).

The research data revealed that the majority of respondents (37.3%) indicated they were unaware of the damage eating disorders can cause to oral health. Among those who reported having some knowledge, the most frequently mentioned issue was tooth decay, identified by 32.4% of participants. Other responses included general body weakness (18.6%), underweight (6.9%), and slowed thyroid function (4.9%). The distribution of results is presented in Figure 5.

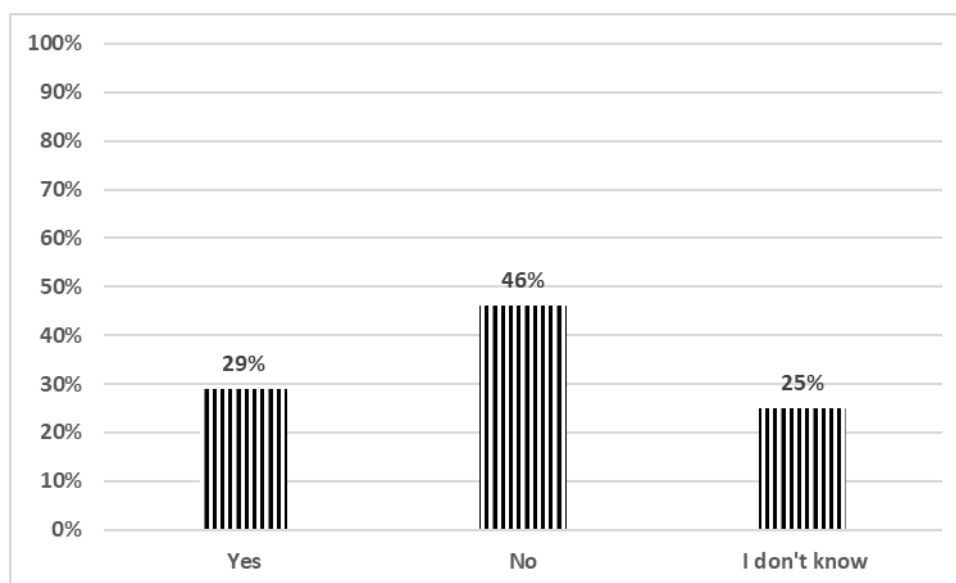


Figure 6. Distribution of respondents' answers based on whether they grind their teeth

During the study, respondents were asked whether they experience bruxism. The majority (46%, $n = 47$) reported not experiencing teeth grinding, while 29% ($n = 30$) stated that they do, and 25% ($n = 25$) were unsure whether they experience this condition. These results indicate that nearly one-third of respondents experience bruxism, and one-quarter are uncertain about its presence, suggesting a lack of awareness and potentially insufficient self-observation. Recent studies show that bruxism is a biopsychosocial phenomenon closely linked to psychological stress, anxiety, and emotional dysregulation (Walczyńska-Dragon et al., 2025). It is important to note that eating disorders, such as anorexia nervosa and bulimia, also involve strong psychological components— anxiety, perfectionism, low self-esteem, and emotional intolerance (Portingale et al., 2024). The distribution of results is presented in Figure 6.

The Impact of Eating Disorders on Oral Health

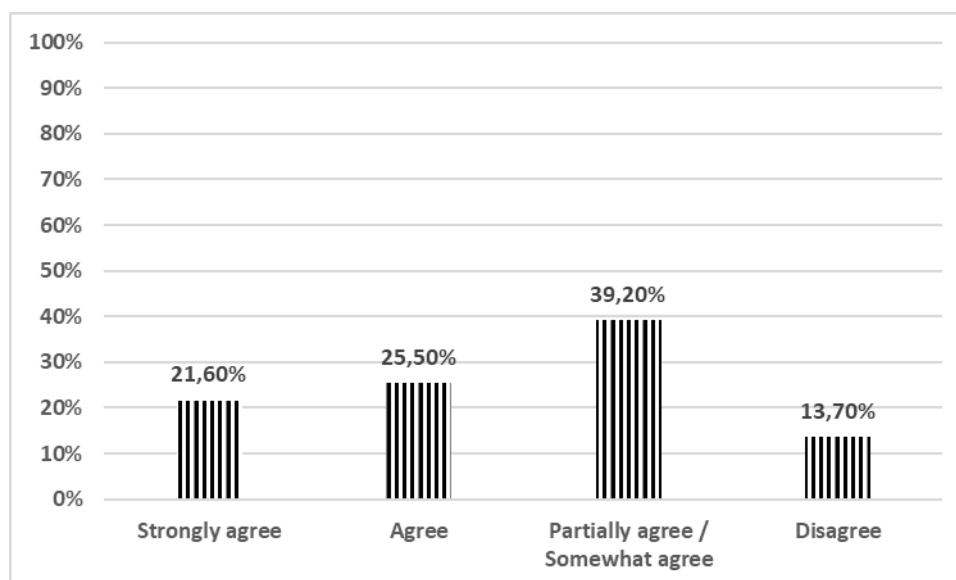


Figure 7. Distribution of responses among individuals diagnosed with eating disorders regarding their oral hygiene practices, specifically whether they brush their teeth immediately after episodes of self-induced vomiting (percentage).

During the study, respondents were asked whether, in the context of bulimia nervosa, they brush their teeth immediately after vomiting following an episode of binge eating. The majority of respondents (39.2%) disagreed with the statement that they brush their teeth immediately after vomiting. Meanwhile, 25.5% agreed with the statement, 21.6% strongly agreed, and 13.7% partially disagreed. The distribution of responses is illustrated in Figure 7.

Furthermore, Valeriani et al. (2024) emphasize in their systematic review that dental erosion is one of the most common oral health complications in individuals with bulimia, and improper hygiene practices following vomiting may accelerate this process.

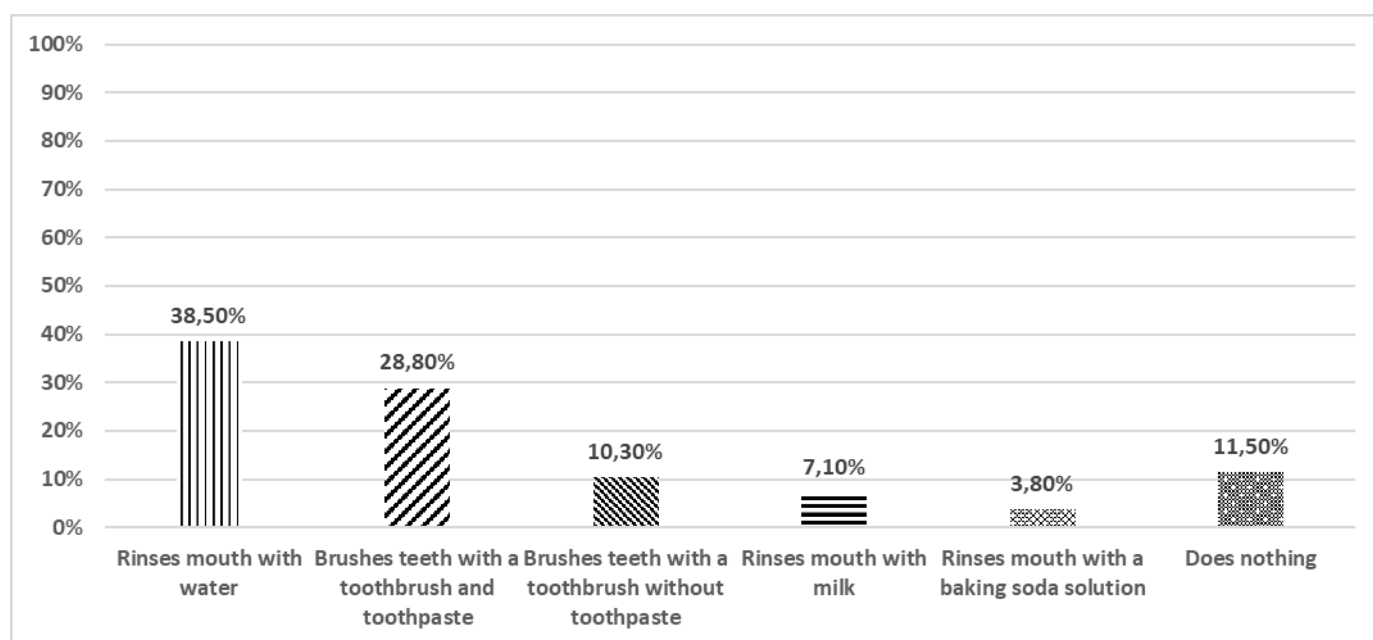


Figure 8. Distribution of respondents by oral care practices after vomiting

During the study, respondents were asked what actions they take after vomiting. The largest proportion (38.5%) reported rinsing their mouth with water. A smaller group (28.5%) stated that they brush their teeth using a toothbrush and toothpaste. Additionally, 11.5% indicated that they do nothing, 10.3% brush their teeth without toothpaste, 7.1% rinse their mouth with milk, and the smallest group (3.8%) reported rinsing with a baking soda solution. The distribution of responses is illustrated in Figure 8.

The Impact of Eating Disorders on Oral Health

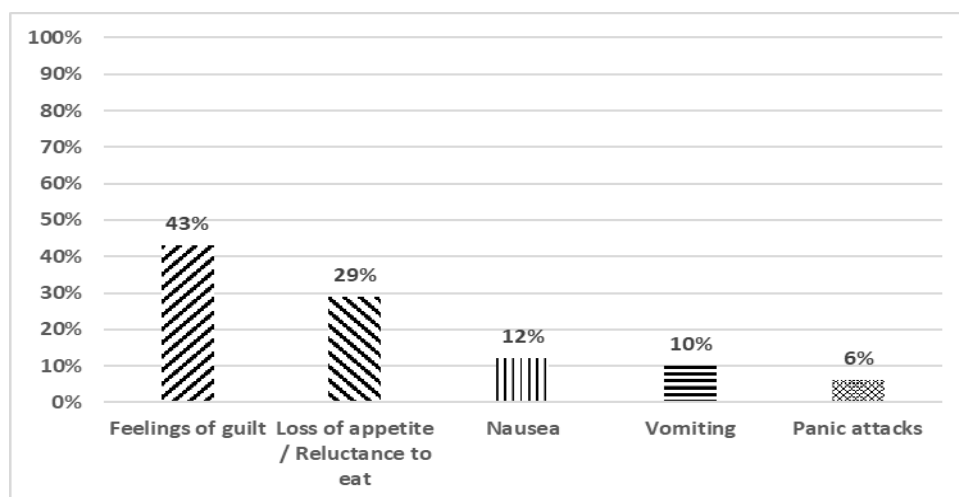
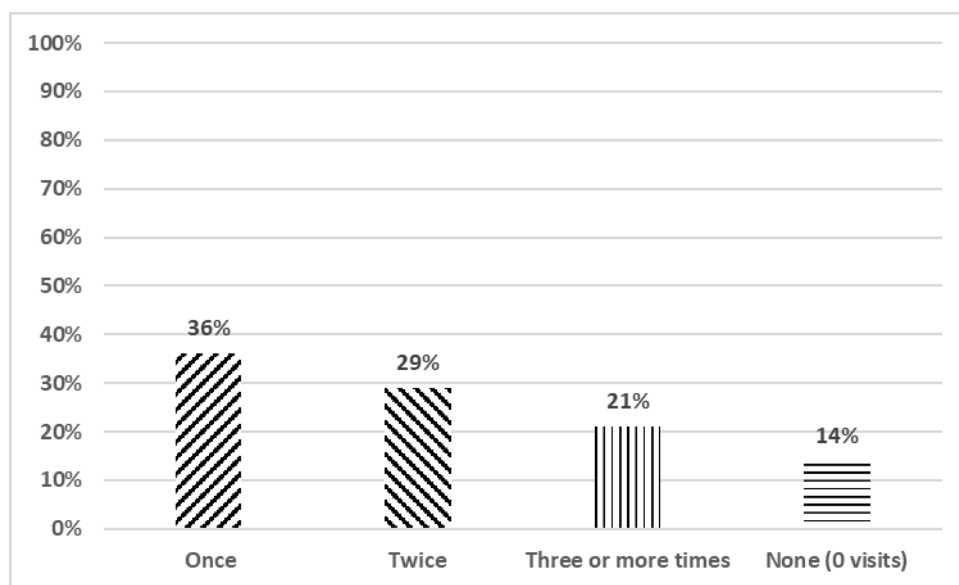


Figure 9. Psychological state of respondents diagnosed with eating disorders

Participants were asked to identify the symptoms they experienced while suffering from eating disorders. The largest proportion of respondents (42%) reported experiencing feelings of guilt, followed by 29% who indicated a loss of appetite. Additionally, 13% reported nausea, 10% experienced the urge to vomit, and 6% (n = 6) reported panic attacks.

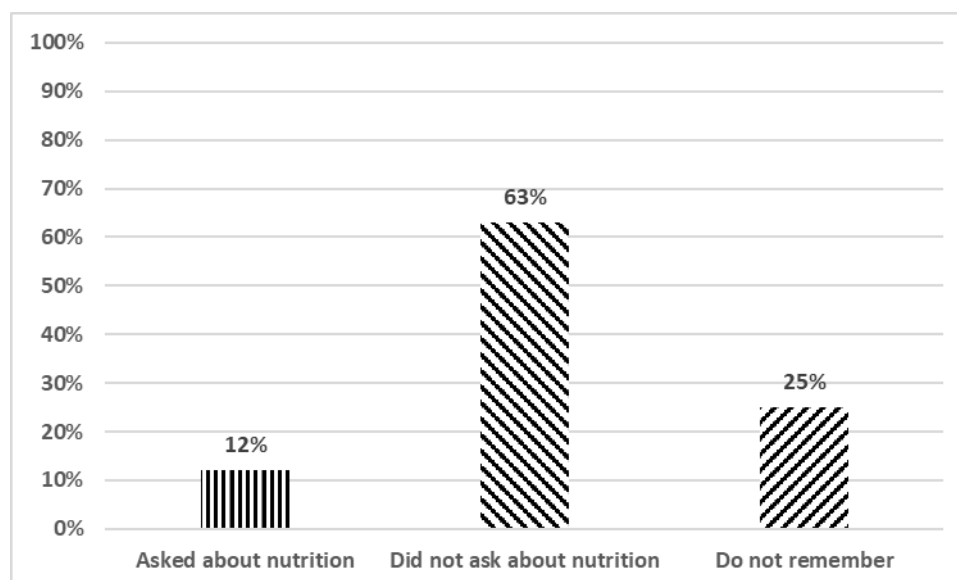
In a systematic review conducted by Tan et al. (2023), it was noted that eating disorders are frequently associated with depression, social anxiety, obsessive-compulsive symptoms, and even suicidal ideation. These findings underscore the psychological complexity and comorbidity of eating disorders. The distribution of responses is illustrated in Figure 9.



10. Figure Distribution of respondents based on dental visits in the past 12 Months

A significant proportion of respondents (36%) reported having visited a dentist once within the past 12 months. Additionally, 29% of participants (n = 30) indicated they had attended dental appointments twice during the same period, while 21% reported three or more visits. Notably, 14% of respondents stated that they had not visited a dentist at all over the past year. The distribution of responses is illustrated in Figure 10.

The Impact of Eating Disorders on Oral Health



11. Figure. Distribution of respondents' answers regarding whether oral health professionals asked about nutrition

During the survey, respondents were asked whether, during their visit to a dentist or oral hygienist, they had been questioned about their dietary habits. The majority of respondents (63%, $n = 64$) indicated that they had not been asked about this topic. A quarter of the participants (25%) stated that they did not know or could not remember whether such a question had been posed. Only 12% of respondents confirmed that they had been asked about their nutrition during the visit. The distribution of responses is illustrated in Figure 11.

IV. CONCLUSIONS

1. Individuals suffering from eating disorders frequently exhibit a range of oral health impairments. The findings of the study reveal that, in cases of bulimia, the most commonly observed symptoms include halitosis (unpleasant breath), xerostomia (dry mouth), oral ulcers, and lesions. Furthermore, among individuals diagnosed with anorexia, there is a noted increase in the prevalence of dental caries, tooth erosion, reduced salivary flow, and enlargement of the salivary glands.
2. Most respondents with eating disorders reported that after vomiting, they usually rinse their mouth with water and brush their teeth with a toothbrush and toothpaste. These survey results reveal a lack of knowledge about proper oral care after vomiting among people experiencing this problem.
3. The survey data revealed that most respondents with eating disorders visit oral health professionals at least once a year. However, more than half of those surveyed said that specialists did not ask them about eating disorders. The results emphasize the importance of an interdisciplinary approach and the need to educate healthcare professionals about the signs of eating disorders and proper communication with patients.

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