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Prevalence and Correlates of Bruxism among University Students in Libya: The Role of Stress

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ABSTRACT

Background: Bruxism, characterized by teeth grinding or clenching, is a common condition associated with various factors, including stress, anxiety, and psychological distress. University students, in particular, are often subjected to high levels of stress due to academic pressures, clinical training demands, and future career uncertainties. These stressors can exacerbate bruxism symptoms and contribute to its onset or worsening. Objective: Examine the connection between stress levels and teeth grinding (bruxism) among university students.

Material and Methods: The study participants were university students enrolled in educational institutions in Libya. Data collection was carried out electronically through secure online platforms or email distributed to the participants. The questionnaire encompassed sections on demographics, stress levels, and bruxism symptoms. Statistical analysis involved employing appropriate methods such as correlation analysis or regression analysis to explore the connection between stress levels and bruxism symptoms among university students, with statistical significance set at $p < 0.05$.

Result: A significant proportion of students reported experiencing stress, fatigue, or anxiety symptoms frequently or always, indicating a pervasive issue affecting the student population. High levels of perceived stress were prevalent among respondents, with many rating their stress levels as notably elevated. This highlights the critical need for effective mental health interventions and support services within educational settings. Students employed various coping mechanisms such as meditation, social support, and exercise to manage stress, reflecting a proactive approach to maintaining mental well-being. The study found a substantial prevalence of diagnosed bruxism among participants, with common symptoms including headaches, jaw pain, tooth sensitivity, and disrupted sleep. This underscores the significant impact of stress on oral health and overall well-being. The research also identified diverse health issues among students, including poor sleep quality, nail biting habits, and gastrointestinal problems, further emphasizing the multifaceted impact of stress on students' physical and mental health.

Keywords: Bruxism; Stress; Anxiety; Medical and Dental Students

Abbreviations: TMJ: Temporomandibular Joint; PSS: Perceived Stress Scale; TMD: Temporomandibular Disorders

Introduction

University life is often perceived as a period of personal growth and academic achievement, but it also presents numerous challenges that can impact students' physical and mental well-being. One such challenge is the experience of stress, which has been widely recognized as a prevalent issue among university students worldwide [1]. Stress is a widely recognized term utilized across various contexts, including psychological, social, professional, and educational settings. It encompasses both positive aspects, known as "eustress," and negative aspects, termed "distress," reflecting the spectrum of stress experienced in individuals' lives [2]. Bruxism, characterized by teeth grinding or clenching, is a common condition associated with various factors, including stress, anxiety, and psychological distress. university students, in particular, often experience high levels of stress due to academic pressures, clinical training demands, and uncertainties about their future careers. These stressors can exacerbate bruxism symptoms and contribute to its onset or worsening [3]. Bruxism involves repetitive activity of the masticatory muscles, including clenching or grinding of the teeth, as well as bracing or thrusting of the mandible. This behavior occurs in two forms: during sleep, known as sleep bruxism, and during wakefulness, termed awake bruxism. Sleep bruxism involves rhythmic (phasic) or non-rhythmic (tonic) movements of the masticatory muscles during sleep, while awake bruxism entails repetitive or sustained tooth contact, along with bracing or thrusting of the mandible, while awake [4,5].

Over time, in individuals without underlying health issues, this habit can result in adverse oral health issues, including tooth erosion, increased sensitivity of dentin, tooth mobility, and temporomandibular joint (TMJ) dysfunction [6-8]. These conditions can lead to orofacial pain, headaches, disrupted sleep, and reduced quality of life [6-9]. Bruxism can occasionally result from certain psychiatric medications, particularly some antidepressants. Factors such as smoking, consuming caffeinated beverages or alcohol, or using recreational drugs can also heighten the risk of bruxism [10,11]. Bruxism manifests in two forms: Awake bruxism may stem from emotional states like anxiety, stress, anger, frustration, or tension. It can also be a habitual response during deep concentration. Sleep bruxism, on the other hand, occurs during sleep and is characterized by involuntary teeth grinding or clenching, often associated with sleep disruptions [12]. Therefore, the study aimed to explore the occurrence of bruxism and its association with perceived stress among a cohort of Libyan university students. This is the first study investigating the presence of perceived stress in correlation with bruxism in Libyan university students. Additionally, the research aims to identify and analyze factors that could potentially exacerbate bruxism in this population.

Material and Methods

Study Design & Population

This study employed a cross-sectional design to investigate the relationship between stress and bruxism among university students. To ensure data quality, we meticulously formulated all necessary questions and collected 339 responses from different regions of universities in Libya.

Data Collection

Data collection was conducted using self-administered questionnaires distributed to the participants through online platform. The questionnaire included sections on demographics, stress levels, and bruxism symptoms.

Measurement of Stress

Stress levels were assessed using standardized stress assessment tools, such as the Perceived Stress Scale (PSS) or other validated stress assessment scales.

Measurement of Bruxism

Bruxism was assessed through self-reporting of bruxism symptoms, including teeth grinding or clenching during sleep or wakefulness.

Data Analysis

The returned survey responses were downloaded to an Excel document to allow detailed analysis.to examine the relationship between stress levels and bruxism symptoms among university students. Statistical significance was set at $p < 0.05$.

Result

Demographic information

The survey garnered 345 responses, which, after meticulous data cleaning, yielded 339 unique responses. It's worth noting a slightly higher participation rate from males than females, depicted in (Figure 1), with males comprising 52.4% and females 47.6% of the respondents. Predominantly, respondents were higher from Sirt (73.1%, n=247), followed by Tripoli (15.7%, n=53), Benghazi (11.2%, n=38) (Figure 2). The percentage distribution of individuals across different age groups based on data as illustrated in Table 1. where showed Ages 21 to 24 collectively make up a significant portion of the dataset, with each age group representing more than 12% of the total. Ages 18 and 28 have the lowest representation, each accounting for less than 2% of the total. The respondents were asked to specify their primary subject or field of study within their university curriculum. The majority of respondents identified themselves as dentistry students (55%, n=187), with 37.9% (n=128) describing their field as medicine, and 6.8% (n=23) of respondents were enrolled in the College of Health Sciences (Figure 3).

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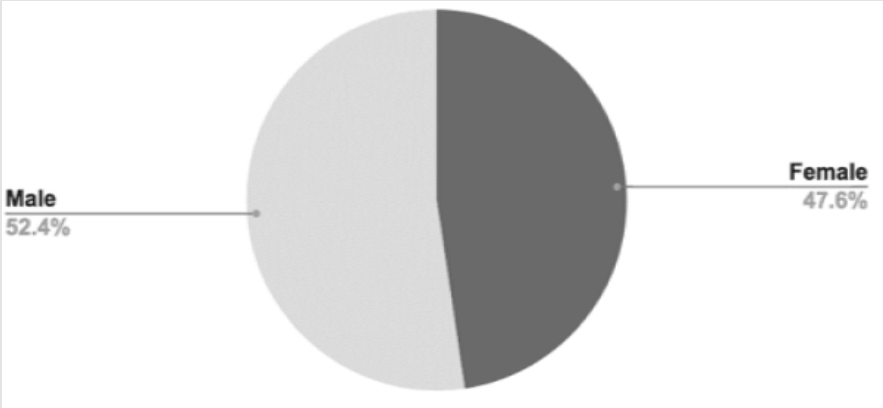

Figure 1: Demographic Information (Gender).

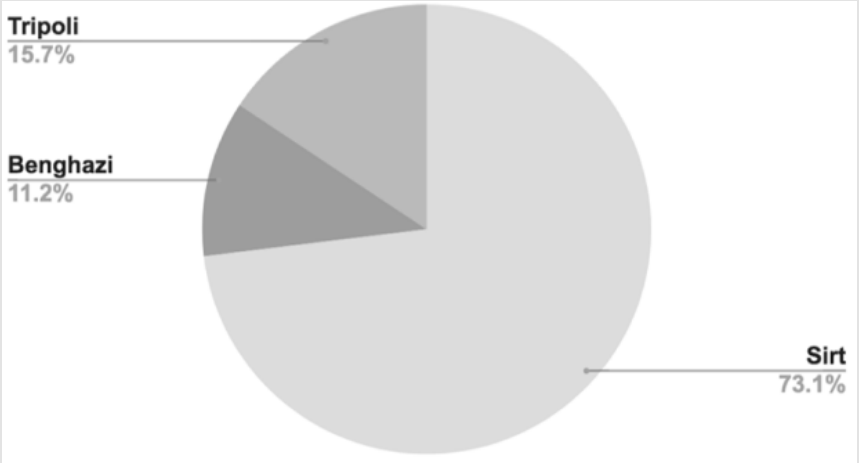

Figure 2: Geographic distribution.

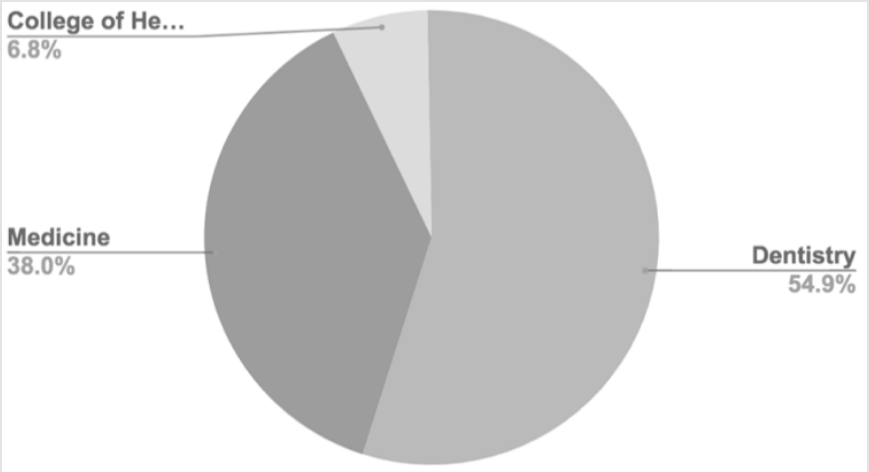

Figure 3: How describe yourself (field).

Table 1.

Age	Percentage of Individuals
18	0%
19	7.74%
20	5.16%
21	12.26%
22	13.55%
23	32.26%
24	16.13%
25	7.10%
26	3.87%
28	1.29%

Symptoms of Stress, Fatigue, or Anxiety

The survey aimed to assess the occurrence of symptoms related to stress, fatigue, or anxiety by asking students about the frequency of these symptoms. Responses were categorized into "always," "sometimes," "frequently," and "not at all." The majority of respondents of students reported experiencing these symptoms as follows: "always" (60.9%), "sometimes" (31.4%), "frequently" (5.6%), and "not at all" (2.1%) (Figure 4).

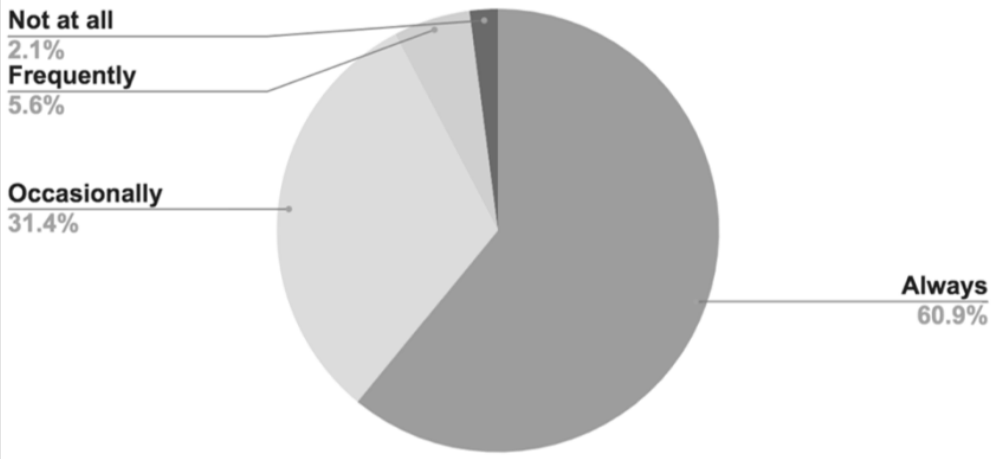

Figure 4: Symptoms of Stress, Fatigue, or Anxiety* Do you experience symptoms of stress, fatigue, or anxiety.

Assessment Scaling of Stress

Based on the analysis of perceived stress levels reported by the surveyed individuals, a significant portion of respondents indicated experiencing notably high levels of stress. The data, assessed on a scale ranging from 1 to 10, reveals a predominant concentration of responses towards the upper end of the scale. Specifically, a substantial number of participants rated their stress levels at 8, 9, or 10, highlighting a prevalent experience of elevated stress within the group. Conversely, there were relatively few instances where individuals reported stress levels in the lower range (1, 2, 3). Moderate stress levels (4, 5, 6, 7) were frequently reported, indicating a common perception of moderate stress among the surveyed population.as showed in Table 2.

Table 2.

Stress Level	Occurrences
1	1
2	19
3	12
4	22
5	18
6	25
7	17
8	28
9	24
10	34

Coping Strategies for Managing Stress

The study reveals a diverse array of coping strategies employed by individuals to effectively manage stress. Analysis of the data highlights four predominant approaches: meditation/relaxation techniques, time management, seeking social support, and exercise. Meditation/relaxation techniques emerged as the most frequently utilized strategy, cited by 145 respondents where represent 32.9%. Close behind, time management was reported by 133 participants where represent 30.2%, indicating its significant role in stress management. Seeking social support was another prominent strategy, noted by 110 respondents where represent 24.9%, underscoring the importance of social connections in coping with stress. Finally, exercise was identified by 53 individuals as a key method for stress relief where represent 12%. These findings underscore the variety of methods people employ to address stress, reflecting a nuanced understanding of coping mechanisms among the study participants.as illustrated in (Figure 5).

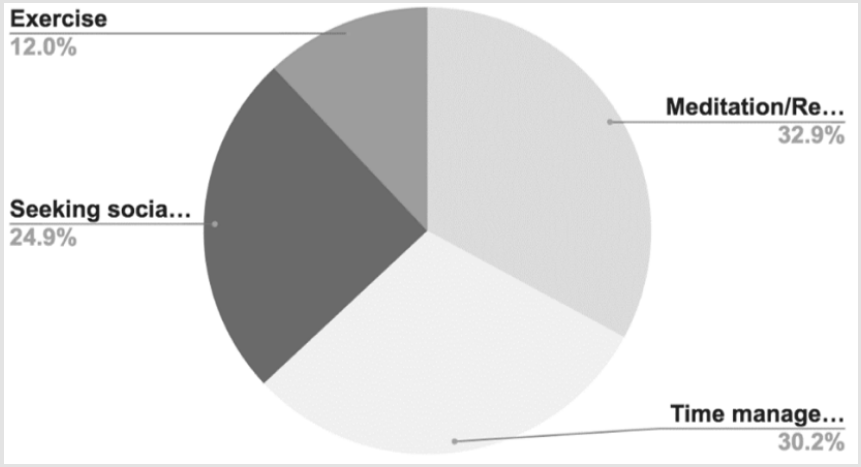

Figure 5: What strategies do you use to cope with stress.

Main Sources of Stress Identified by Participants

The data provided reveals the main sources of stress reported by participants, prominently featuring academic challenges, financial concerns, relationship issues, and other unspecified stressors. Academic stress stands out as the most frequently mentioned source, accounting for 68.6% of responses. This highlights the significant impact of academic pressures on the surveyed individuals. Financial stress is also notable, comprising 11.8% of responses, indicating widespread concerns about financial stability. Relationship issues are identified as a significant stressor, representing 4.4% of responses as showed in Figure 6. The category labelled "Others" encompasses a variety of stressors not explicitly categorized, indicating a broad spectrum of individual stressors beyond predefined categories. This analysis underscores the diverse sources of stress individuals face and emphasizes the necessity for tailored coping strategies and support mechanisms to effectively address these challenges.

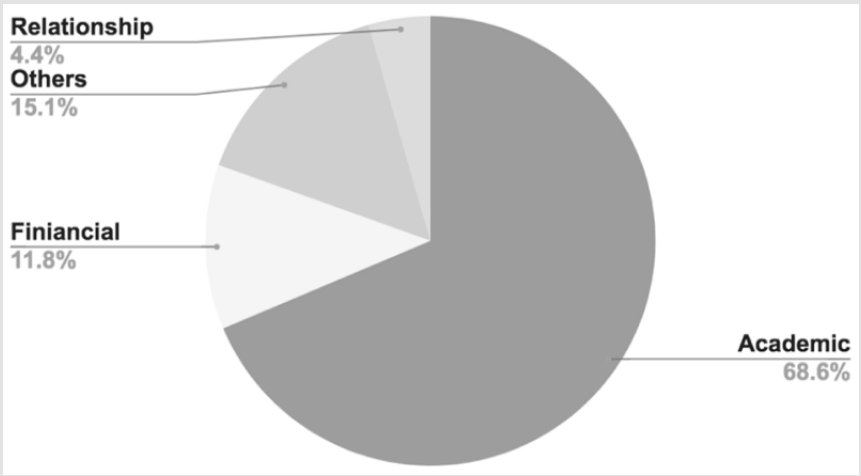

Figure 6: Identify the main sources of stress in your life.

Bruxism Assessment

The data from the Bruxism Assessment reveals varying experiences among the participants regarding the diagnosis of teeth grinding or clenching. Among the respondents, 54.4% reported being diagnosed with bruxism, indicating a significant portion of the surveyed population has received medical recognition for this condition. This suggests a notable prevalence of bruxism within the sample. On the other hand, 45.6% of respondents reported no complaints of bruxism, as illustrated in Figure 7. Participants were queried about the symptoms they were experienced as a result of stress or bruxism, aiming to delve into the physiological manifestations associated with these conditions. most frequently cited symptoms include headaches, jaw pain, tooth sensitivity, and disrupted sleep. Among those surveyed, headaches were the most commonly reported symptom, affecting 28.8% of respondents. Jaw pain followed closely, reported by 26.2% of participants. Tooth sensitivity was noted by 24.6% of individuals, while disrupted sleep, often linked to the discomfort of bruxism, affected 20.4% of respondents. as illustrated in Figure 8.

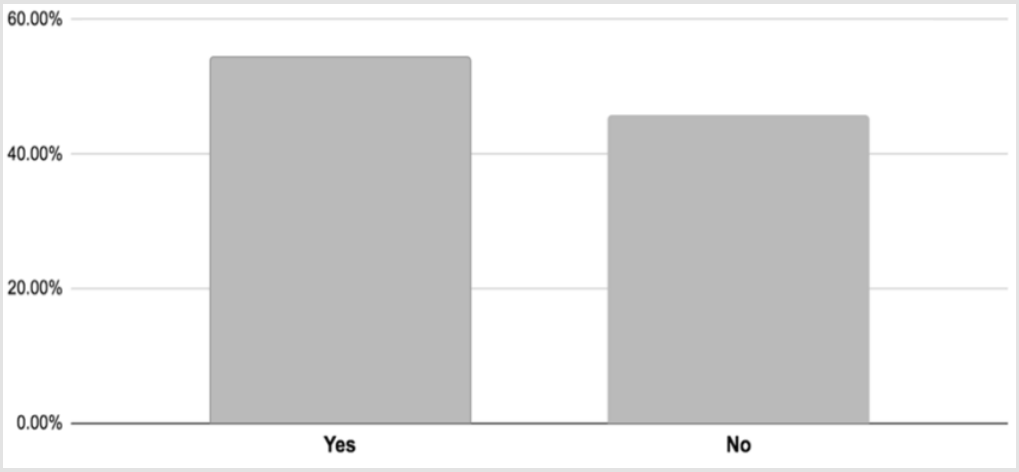

Figure 7: "Bruxism Assessment" Have you ever been diagnosed with bruxism (teeth grinding or clenching).

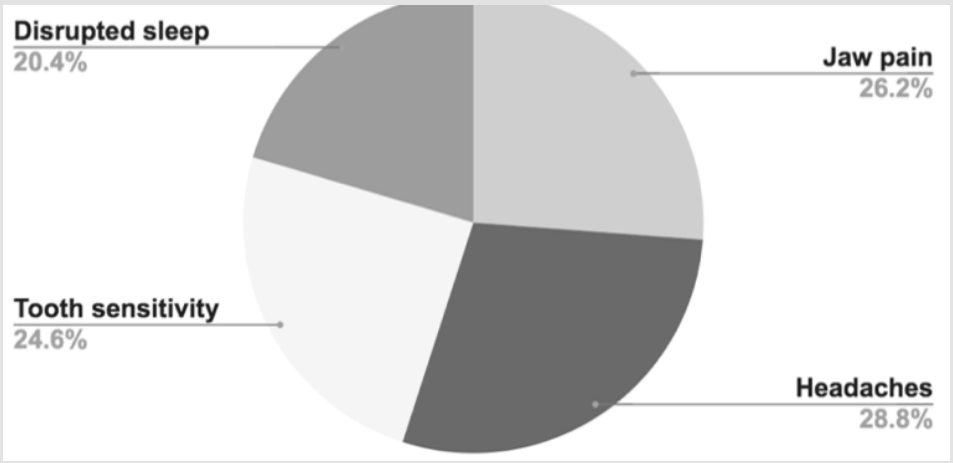

Figure 8: What symptom do you experience due to stress/bruxism.

Exploring the Link Between Stress Levels and Episodes of Bruxism

The study on the relationship between stress and bruxism yielded insightful results regarding participants' beliefs about the connection between their stress levels and episodes of bruxism as illustrated in Figure 9. A significant majority of respondents (43.2%) agreed that there is a link between their stress levels and episodes of bruxism. Additionally, 18.0% of participants strongly agreed with this association, highlighting a substantial portion who firmly believe in the impact of stress on their bruxism. Conversely, a small minority (2.7%)

disagreed with this notion, indicating a perspective that stress does not significantly influence their condition. Notably, 10.7% strongly disagreed with the idea of a stress-bruxism link, suggesting a firm rejection of this connection. A considerable portion (25.9%) remained neutral, reflecting uncertainty or a lack of awareness about the relationship between stress and bruxism.

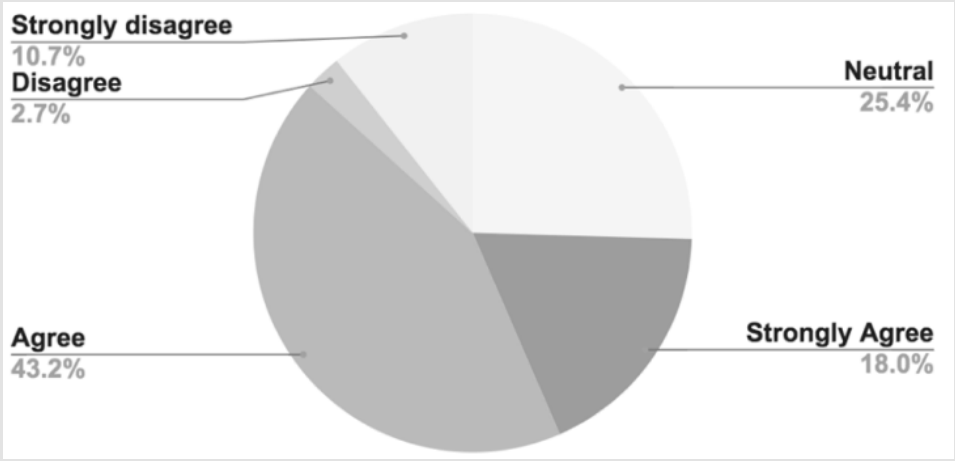

Figure 9: Relationship between Stress and Bruxism. Do you believe there is a connection between your stress levels and episodes of bruxism.

Grinding Teeth: Frequency of Teeth Grinding Awareness

Chart reflects the distribution of teeth grinding frequencies among the respondents. "Occasionally" was observed by 36.4% of individuals, "Frequently" by 7.4%, "Never" by 37.9%, and "Always" by 18.3% as illustrated in Figure 10. These percentages illustrate the varying levels of awareness and frequency of teeth grinding episodes reported by the surveyed population. In a survey on discomfort or pain associated with teeth grinding, participants were asked about their experiences. Among the respondents, 20.6% reported frequently experiencing such issues, indicating it occurs regularly for them. Another 30.7% reported experiencing discomfort or pain occasionally, suggesting it happens but not consistently. Meanwhile, 34.8% stated they do not experience discomfort or pain from teeth grinding, implying infrequent grinding or lack of noticeable discomfort. Lastly, 13.9% reported experiencing discomfort or pain from teeth grinding always, indicating it is a constant source of discomfort for this subgroup. These findings underscore the varying degrees of impact that teeth grinding has on individuals surveyed. As illustrated in Figure 11.

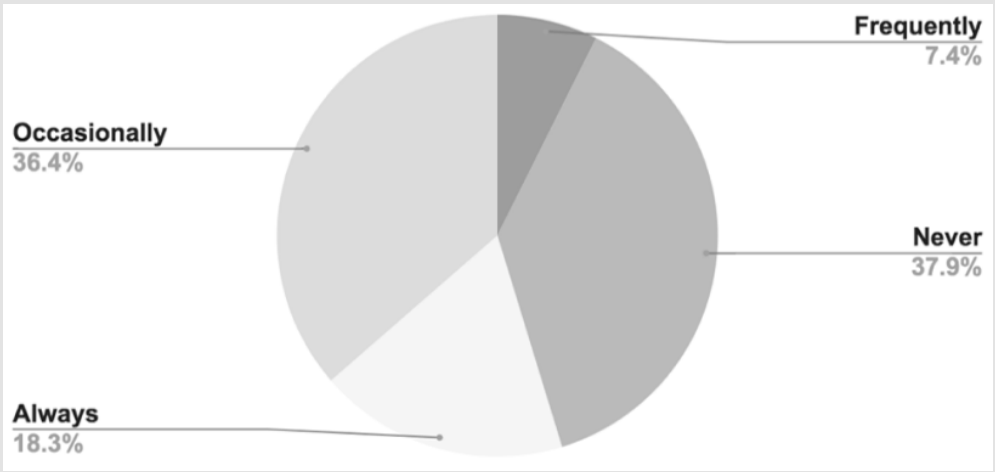

Figure 10: Grinding Teeth. How frequently do you notice yourself grinding your teeth.

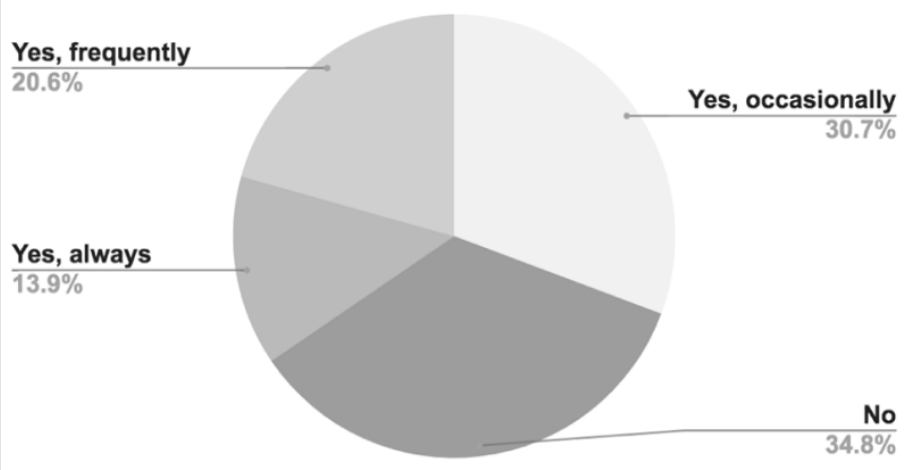

Figure 11: Have you experienced any discomfort or pain associated with teeth grinding.

Perception of Dental Wear Severity

Participants were asked to rate their perception of dental wear on a scale of 1 to 10, with 1 indicating no wear and 10 indicating severe wear. The majority of participants perceived their dental wear to be minimal, with 153 respondents (45.1%) rating their wear perception as 1, and 133 respondents (39.2%) rating it as 2. A smaller number of participants rated their dental wear perception higher, with 42 respondents (12.4%) rating it as 3, 8 respondents (2.4%) as 4, and 3 respondents (0.9%) as 5. No respondents rated their dental wear perception as 6, 7, 8, 9, or 10. As illustrated in Table 3. This distribution indicates that the perception of dental wear among the participants tends to be lower on the scale, with the majority perceiving little to no wear. The absence of responses for ratings 6 through 10 suggests that severe dental wear was not perceived among the surveyed participants.

Table 3.

Rating	Frequency
1	153
2	133
3	42
4	8
5	3
6	0
7	0
8	0
9	0
10	0

Assessment of Sleep Quality: How Well Do Individuals Typically Sleep?

Based on the data collected regarding sleep quality, participants were asked to rate how well they typically sleep. The analysis of sleep quality ratings among participants revealed diverse perceptions. A significant minority (30.8%) reported experiencing very good sleep quality ("Very well"), indicating consistent positive sleep experiences. Additionally, a substantial portion (28.7%) reported good sleep quality ("Well"), suggesting satisfactory sleep for many. However, a majority (37.0%) reported poor sleep quality, highlighting prevalent challenges in achieving satisfactory sleep among the respondents. A small percentage (3.6%) reported experiencing very poor sleep quality ("Very poorly"), indicating severe sleep disturbances for a minority. These findings underscore the varied experiences of sleep quality among the surveyed individuals, emphasizing both positive and concerning aspects of sleep health within the population. As illustrated in Figure 12.

Exploring Nail Biting Behaviour: Survey Findings

Based on the updated data regarding the habit of nail biting, it is evident that responses varied significantly among the participants. A substantial majority, 47.90%, reported never biting their nails, indicating an absence of this habit. Conversely, 20.00% indicated that they frequently engage in nail biting, while 23.50% reported occasionally biting their nails. A smaller proportion, 8.60%, stated that they always engage in this behavior. This distribution highlights the diverse range of responses regarding nail biting habits among the surveyed individuals, with a significant portion of respondents indicating varying degrees of involvement in this habit. As illustrated in Figure 13.

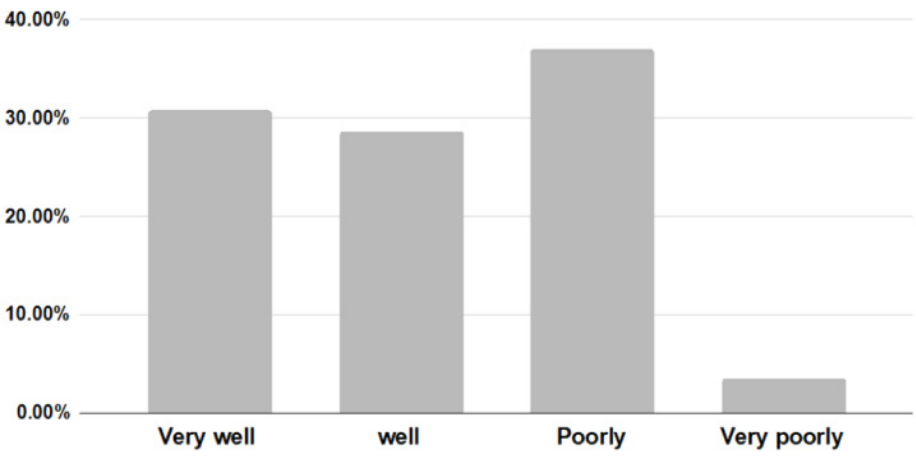

Figure 12: "Sleep Quality" How well do you typically sleep.

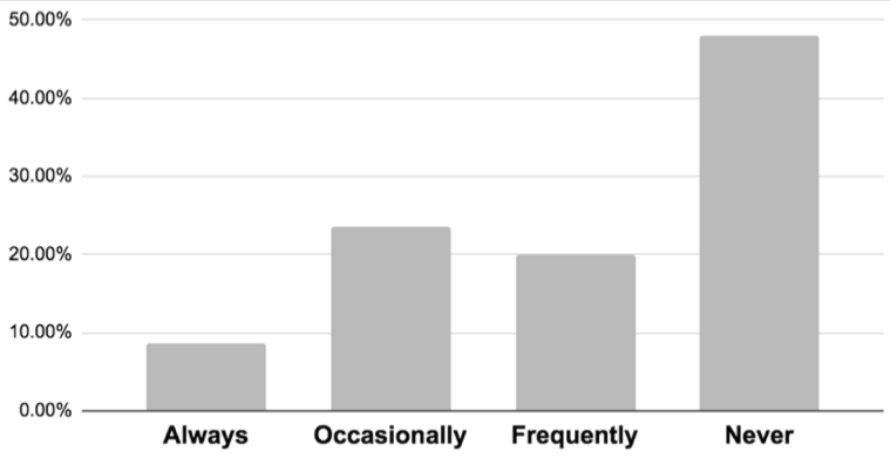

Figure 13: Nail Biting** Do you have a habit of biting your nails.

Habit of Putting Objects in the Mouth

Based on the data collected regarding the habit of putting non-food objects in the mouth, the responses varied significantly among participants. A substantial portion reported never engaging in this habit, comprising 41.4% of the total responses. Conversely, occasional engagement was prevalent, with 28.2% indicating they do so occasionally. A smaller proportion reported doing this frequently, accounting for 7.1% of the responses. The smallest percentage was attributed to those who reported always engaging in this habit, constituting 13.3% of the responses. This data highlights varying degrees of frequency in the behavior of putting non-food objects in the mouth among the surveyed individuals. As shown in Figure 14.

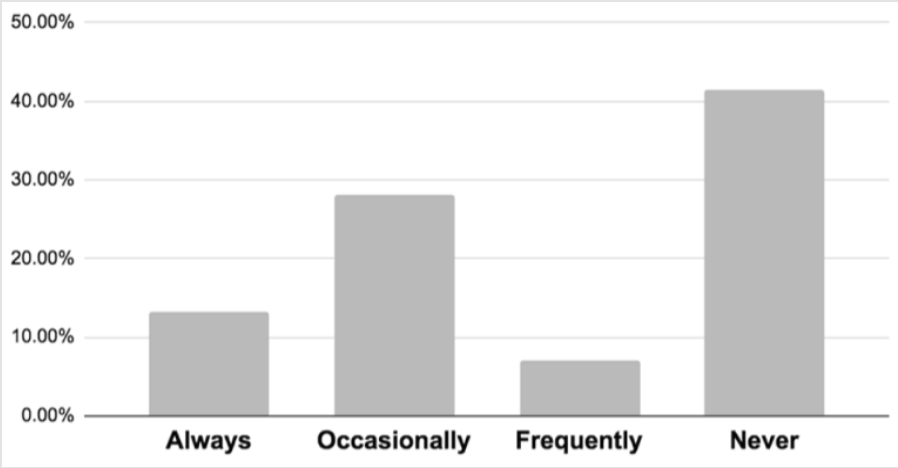

Figure 14: Habit of Putting Objects in the Mouth Do you have a habit of putting non-food objects in your mouth.

Occurrence of Noise or Clicking in the Temporomandibular Joint

In accordance with the assessment of the occurrence of noise or clicking in the temporomandibular joint (TMJ), the data reveals varying frequencies among the respondents. Approximately 16.30% reported experiencing such noises always, while 27.80% indicated experiencing them occasionally. A significant portion, 24.00%, reported frequent occurrences of TMJ noise or clicking. In contrast, 32.00% of respondents stated that they never experienced such issues with their TMJ. This data highlights a notable prevalence of TMJ noise or clicking among the surveyed individuals, with a substantial portion reporting occasional to frequent occurrences. As shown in Figure 15.

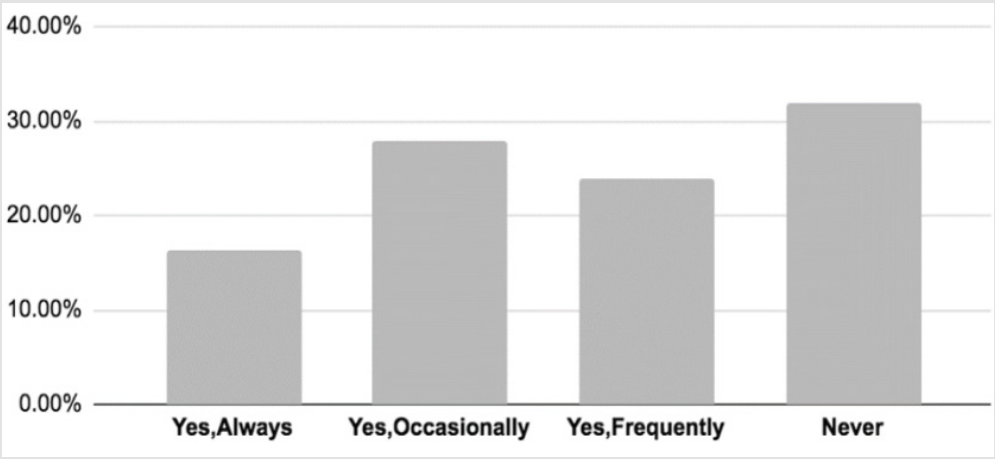

Figure 15: Temporomandibular Joint (TMJ) Noise Have you ever noticed any noise or clicking in your temporomandibular joint (jaw joint) when chewing or talking.

Assessment of Smoking Habit

Based on the assessment of smoking habits among the participants. The majority, 69.00%, reported that they never smoke. Among those who do smoke, 19.40% indicated that they smoke always, 8.50% smoke frequently, and a smaller proportion, 3.10%, smoke occasionally. This data highlights that a significant portion of the surveyed population abstains from smoking entirely, while a notable minority engages in varying frequencies of smoking. These findings provide insight into the prevalence of smoking behaviors within the surveyed group. As shown in Figure 16.

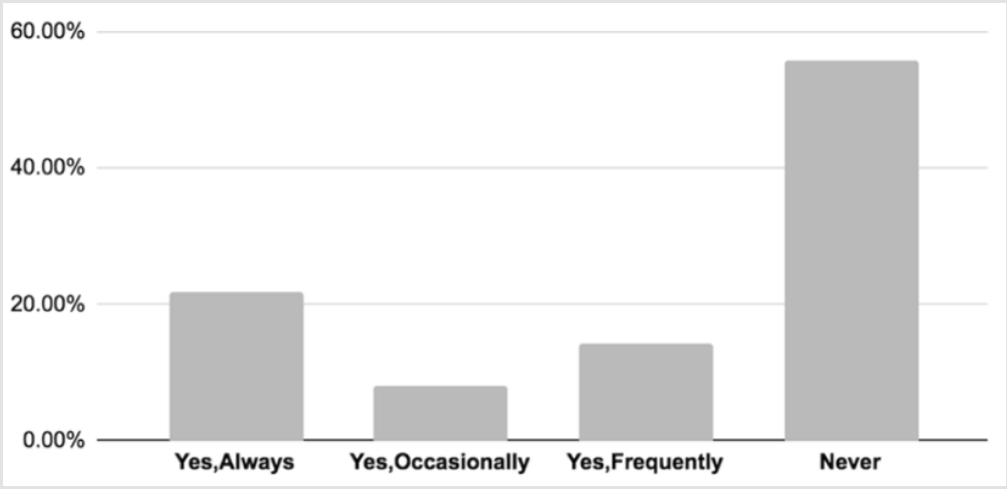

Figure 16: "Smoking Habit" Do you smoke.

Assessment of Gastric Problems

In accordance with the responses collected for the question "Do you experience gastric problems such as acid reflux or heartburn?", the data reveals that 42.40% of respondents reported experiencing these issues always. A significant portion, 24.90%, indicated experiencing them frequently. In contrast, 17.80% reported experiencing gastric problems occasionally, while a smaller proportion, 15.90%, stated they never experience such issues. This distribution illustrates varying degrees of prevalence of gastric problems among the surveyed individuals. As shown in Figure 17.

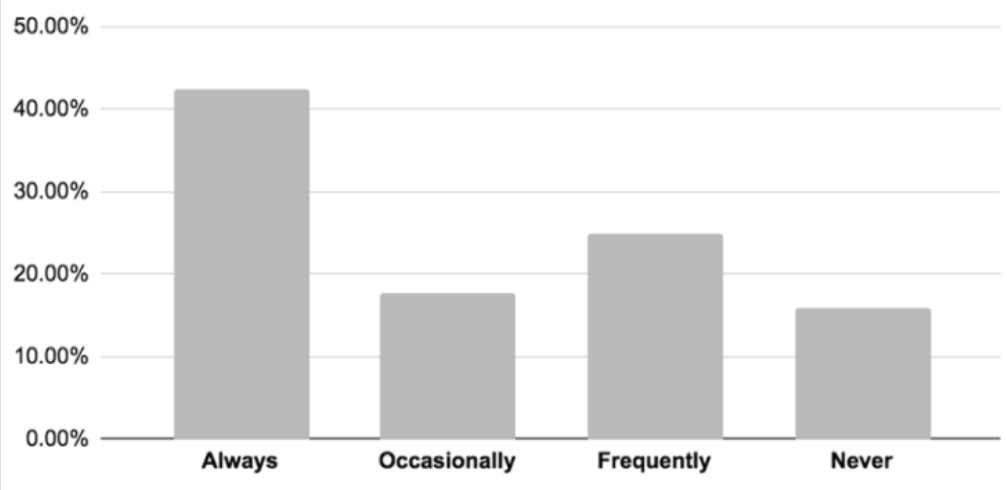

Figure 17: "Gastric Problems" Do you experience gastric problems such as acid reflux or heartburn.

Evaluation of Consumption of Acidic Foods and Beverages

Based on the data collected regarding the consumption of acidic foods and beverages, a diverse pattern emerges among respondents. A significant portion, 32.8%, indicated they occasionally consume acidic foods and beverages, suggesting a moderate level of intake. Conversely, 28.7% reported either never or rarely consuming such items, indicating a preference or habit of avoiding them. A notable 21.9% of participants reported always consuming acidic foods and beverages, reflecting a consistent dietary choice. Finally, 16.6% indicated frequent consumption, suggesting a regular but not constant intake of acidic foods and beverages. This data highlights varied habits and preferences among the surveyed individuals regarding their consumption of acidic foods and beverages. As shown in Figure 18.

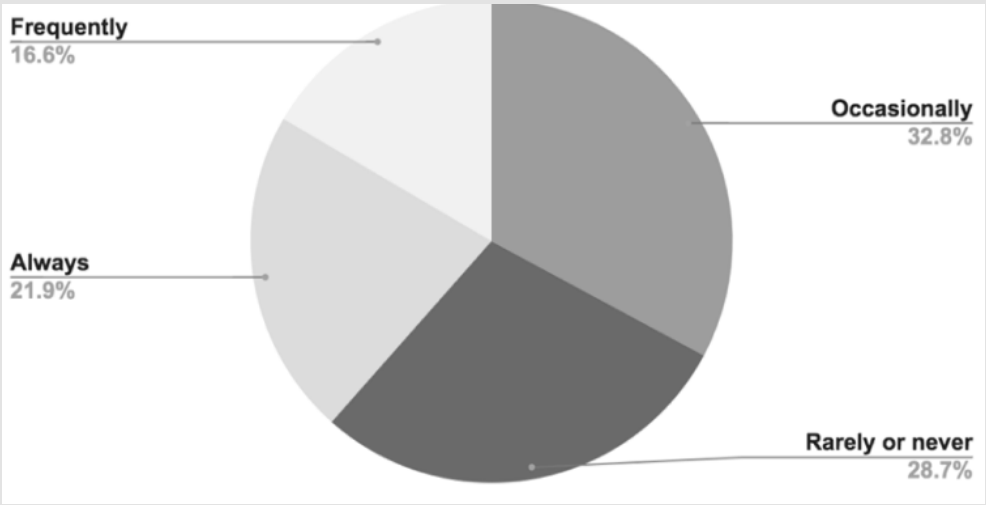

Figure 18: "Consumption of Acidic Foods" How often do you consume acidic foods and beverages (e.g., citrus fruits, sodas).

Nervousness During School Tests

Based on the data collected regarding nervousness during school tests, the majority of respondents, 56.8%, reported feeling nervous or stressed always during tests. A significant portion, 17.2%, indicated feeling nervous occasionally, while a smaller percentage, 10.7%, reported feeling nervous frequently. Interestingly, 15.4% of respondents reported not feeling nervous at all during school tests. These findings suggest a wide range of experiences with test-related nervousness among the surveyed individuals. As illustrated in Figure 19.

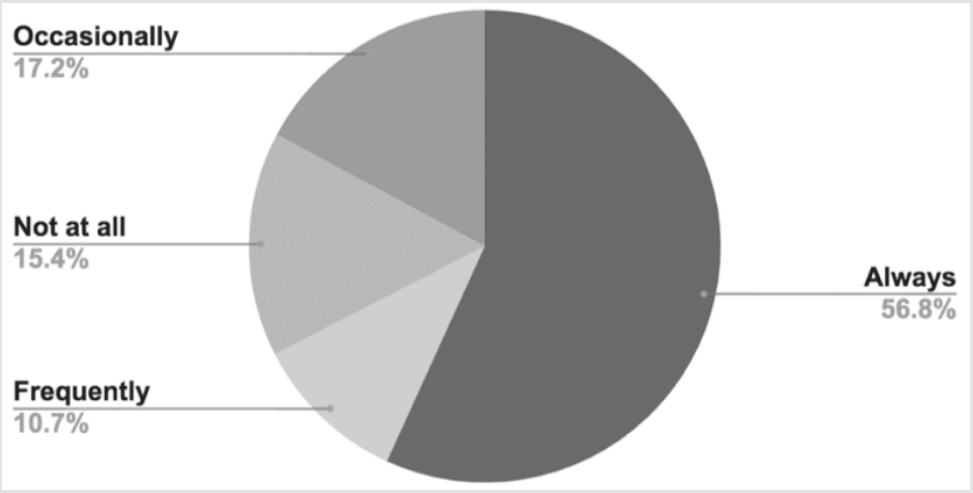

Figure 19: "Nervousness at School Tests" Do you feel nervous or stressed during school tests.

Discussion

The study collected data from 339 responses after cleaning an initial set of 345 survey submissions. Male respondents slightly outnumbered female respondents. The majority of participants were from Sirt, followed by those from Tripoli and Benghazi. Age-wise, individuals aged 21 to 24 were notably represented, while those aged 18 and 28 were the least represented. Dentistry students formed the largest academic group, followed by students of medicine and the College of Health Sciences. These demographics provide important context for analyzing the study's focus on bruxism and stress among Libyan university students. The survey also examined the prevalence of stress, fatigue, or anxiety symptoms among students. A significant number of students reported always experiencing these symptoms, indicating a

widespread and persistent issue. Another substantial group reported experiencing these symptoms sometimes, showing intermittent challenges for nearly a third of the students. A smaller group reported frequent symptoms, while a very small fraction indicated no such issues at all. These findings underscore the high levels of stress and related symptoms among the student population, emphasizing the need for targeted interventions to address mental health concerns in this demographic. Furthermore, analysis of perceived stress levels reported by the surveyed individuals, a significant portion of respondents indicated experiencing notably high levels of stress. The data, assessed on a scale ranging from 1 to 10, reveals a predominant concentration of responses towards the upper end of the scale.

Specifically, a substantial number of participants rated their stress levels at 8, 9, or 10, highlighting a prevalent experience of elevated stress within the group. Conversely, there were relatively few instances where individuals reported stress levels in the lower range (1, 2, 3). Moderate stress levels (4, 5, 6, 7) were frequently reported, indicating a common perception of moderate stress among the surveyed population. This pattern suggests that while extreme stress is a significant issue, moderate stress is also a pervasive concern. These findings underscore the critical need for effective mental health support and interventions within educational institutions to address and mitigate the high levels of stress, fatigue, and anxiety experienced by students. The variety of coping mechanisms highlighted in the study reflects a nuanced understanding among participants regarding stress management. The predominance of meditation/relaxation techniques and time management suggests that individuals prefer immediate, personal, and practical approaches to coping with stress. Hofmann et al. [13] found that mindfulness-based interventions, including meditation, effectively reduce stress and enhance psychological well-being [13]. The substantial percentage of individuals seeking social support indicates the critical role of human connections in managing stress. Cohen et al. [14,15] emphasize the role of social connections in mitigating stress and promoting health [14,15], while the inclusion of exercise showcases the holistic approach people take towards maintaining mental health.

Netz et al. [16] conducted a meta-analysis showing consistent evidence that exercise reduces anxiety and depression, contributing positively to mental health [16]. The data analysis identifies several key sources of stress among participants. Academic challenges are reported most frequently, underscoring the significant impact of academic pressures on individuals and highlighting the intense demands and high expectations associated with academic performance. Misra, et al. [17] conducted a study highlighting various academic stressors experienced by students, emphasizing their impact on mental well-being and overall stress levels [17]. Financial concerns are also prevalent among respondents, indicating widespread worries about financial stability and suggesting that financial insecurity exacerbates overall stress. Relationship issues play a crucial role in contributing to stress, as identified by a significant number of participants, emphasizing the impact of interpersonal conflicts and dynamics. The category labeled "Others," encompassing a variety of unspecified stressors, reflects a broad spectrum of individual stressors beyond the predefined categories. These findings underscore the diverse nature of stressors individuals face and emphasize the need for tailored coping strategies and support mechanisms to address these challenges effectively. The Bruxism Assessment provides insights into the prevalence and associated symptoms of teeth grinding or clenching among participants. The data reveals that 54.4% of respondents have been diagnosed with bruxism, indicating a significant portion of the surveyed population has received medical recognition for this condition.

This aligns with existing research that suggests bruxism is a common issue, affecting a substantial number of individuals globally [18]. Conversely, 45.6% of participants reported no complaints of bruxism, highlighting variability in the prevalence among different populations or possibly reflecting underdiagnosis in some cases. Regarding symptoms associated with stress or bruxism, the assessment identifies several common manifestations. Headaches are the most frequently reported symptom, affecting 28.8% of respondents. This is consistent with literature suggesting headaches as a prevalent consequence of bruxism-related muscle tension and strain [19]. Jaw pain follows closely, reported by 26.2% of participants, emphasizing the impact of bruxism on temporomandibular joint (TMJ) health [20]. Tooth sensitivity, noted by 24.6% of individuals, and disrupted sleep, affecting 20.4% of respondents, further illustrate the diverse physiological effects associated with bruxism [21]. Overall, the findings underscore the multifaceted nature of bruxism and its significant impact on individuals' well-being, as reflected in the prevalence of diagnosis and the range of associated symptoms. Effective management strategies, such as dental interventions, stress reduction techniques, and behavioral therapies, are crucial in mitigating the adverse effects of bruxism and improving overall quality of life [22]. The survey findings on discomfort or pain associated with teeth grinding highlight a spectrum of experiences among respondents, indicating varied impacts on individuals.

Research has shown that teeth grinding, also known as bruxism, can lead to both acute and chronic symptoms, including jaw pain, headaches, and tooth wear [23]. A significant portion of respondents reported frequent discomfort, suggesting a chronic issue for some [23]. Others experienced occasional discomfort, reflecting the intermittent nature of teeth grinding's effects [24]. A notable subgroup reported no discomfort, which aligns with findings suggesting that not all individuals who grind their teeth experience noticeable symptoms [24]. Conversely, a smaller yet significant proportion reported constant discomfort, indicating a persistent and severe impact on their daily lives [23]. These findings underscore the diverse nature of teeth grinding's effects, emphasizing the need for tailored approaches to prevention and management based on individual experiences and needs [23,24]. The results from participants' ratings of dental wear perception on a scale of 1 to 10 reveal interesting insights into their

self-assessment of tooth wear. A significant majority of respondents perceived their dental wear to be minimal, with 45.1% rating it as 1 and an additional 39.2% rating it as 2. This finding suggests that a large proportion of the surveyed population believes their teeth show little to no signs of wear, aligning with studies that indicate early stages of tooth wear may be asymptomatic or perceived as minor by individuals [25]. Furthermore, the absence of responses for ratings 6 through 10 indicates that severe dental wear was not perceived among the participants, reinforcing the notion that most individuals in the sample did not consider their tooth wear to be significant.

These findings underscore the importance of subjective perception in dental wear assessment and highlight potential discrepancies between self-assessment and clinical evaluation, which could influence preventive dental care strategies tailored to individual perceptions [26]. The research study on sleep quality revealed diverse perceptions among participants. A significant minority reported very good sleep quality, indicating consistent positive experiences with sleep. Additionally, a substantial proportion reported good sleep quality, suggesting satisfactory sleep for many. However, a majority of participants reported poor sleep quality, highlighting prevalent challenges in achieving satisfactory sleep. A smaller percentage reported experiencing very poor sleep quality, indicating severe sleep disturbances for some individuals. These findings underscore the varied experiences of sleep quality within the surveyed population, emphasizing both positive and concerning aspects of sleep health. Research suggests that sleep quality can significantly impact overall health and well-being. Good sleep is associated with better cognitive function, emotional regulation, and overall quality of life [27]. Conversely, poor sleep has been linked to increased risk of chronic conditions such as cardiovascular disease and mental health disorders [28]. Addressing factors such as stress management, sleep hygiene practices, and environmental factors can play a crucial role in improving sleep quality [27,28] Understanding these dynamics is essential for developing effective interventions aimed at promoting better sleep health and overall well-being.

The study on nail biting habits revealed diverse responses among participants: nearly half never bite their nails, while smaller proportions engage frequently, occasionally, or always. These findings suggest varied psychological and cultural influences on nail biting behavior, highlighting the need for targeted interventions and further research into its underlying factors and implications for health. The study explored the prevalence of placing non-food items in the mouth among its participants, revealing a spectrum of responses. A substantial number reported never engaging in this behavior, while others indicated occasional, frequent, or constant involvement. This diversity highlights the potential impact of psychological and cultural factors on such behaviors, which can affect health outcomes like ingestion risks and developmental progress, especially in young children. Experts emphasize the necessity for additional research to delve into the underlying reasons and effective strategies for intervention, acknowledging the study's reliance on self-reported data and the intricate nature of behavioral influences [29-31]. Our study explored the prevalence of noise or clicking sensations in the temporomandibular joint (TMJ) among participants, revealing varying frequencies of occurrence. A notable number reported experiencing these symptoms always, occasionally, or frequently, while a significant portion indicated never experiencing such issues. These findings are consistent with existing literature highlighting the commonality of TMJ noises in the general population and their potential association with temporomandibular disorders (TMD).

Healthcare providers should remain vigilant in assessing and managing TMJ symptoms to prevent potential complications and improve patient outcomes. Further research is needed to better understand demographic and lifestyle influences on TMJ health and validate self-reported symptoms through clinical examinations. Based on our study's findings, a significant proportion of participants reported never smoking, while a minority engaged in varying frequencies of smoking. This distribution underscores distinct smoking behaviors within the surveyed population [32,33]. The prevalence of non-smokers reflects positive trends in public health efforts aimed at reducing tobacco use [34]. However, the presence of regular smokers highlights ongoing challenges in tobacco control [23]. Research indicates that smoking can have various health effects, including its potential impact on oral health and conditions like bruxism [35,36]. While not commonly discussed, some studies suggest a potential association between smoking and increased risk of bruxism due to its effects on muscle function and stress responses [37,38]. Further investigation is needed to clarify this relationship and its implications for oral health interventions among smokers [38,39]. The survey highlights significant concerns regarding gastric problems and test-related nervousness among respondents. A substantial portion of individuals reported experiencing persistent or frequent gastric issues such as acid reflux and heartburn. These symptoms, if left untreated, can lead to chronic pain, sleep disturbances, and long-term health complications like esophageal damage or ulcers.

This underscores the urgent need for targeted interventions such as dietary adjustments, lifestyle changes, and medical treatments to improve quality of life [40-42]. A noteworthy number of respondents also reported occasional gastric problems. Addressing these occasional issues through preventive measures and early interventions could help prevent the progression of symptoms. The smallest group of respondents, who never experience gastric issues, might benefit from protective factors that could be studied to aid those more frequently affected [40,41,43]. Regarding test-related nervousness, the majority of respondents indicated feeling consistently nervous or stressed during school tests. This widespread anxiety can negatively impact academic performance and mental health. Thus, there is a need for interventions like stress management programs, mindfulness training, and academic support services to alleviate this anxiety. Additionally, a significant portion of respondents experienced

occasional or frequent test-related nervousness, indicating a need for tailored interventions to build coping skills and provide academic resources. A smaller group of respondents did not experience test-related nervousness, suggesting that they may possess effective coping mechanisms or protective factors. Understanding these factors could help develop anxiety-reduction programs for more stressed students.

In conclusion, our study provides compelling evidence of a significant association between stress and bruxism among university students. The high prevalence of diagnosed bruxism and the reported symptoms such as headaches, jaw pain, and disrupted sleep underscore the profound impact of stress on oral health. These findings highlight the urgent need for effective stress management interventions tailored to the student population. By addressing underlying stressors and promoting relaxation techniques, dental professionals and educators can play a crucial role in mitigating bruxism and improving overall well-being. Future research should focus on longitudinal studies to further elucidate the causal relationship between stress and bruxism and explore additional factors influencing these conditions."

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