

Evaluation of tooth wear and gingival recession in individuals with obsessive-compulsive symptoms: a clinical study

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ABSTRACT

Aims: This study aimed to evaluate tooth wear and gingival recession in individuals presenting with obsessive-compulsive disorder (OCD) symptoms and to investigate potential associations with obsessive-compulsive symptom severity, toothbrushing habits, and demographic characteristics.

Methods: A cross-sectional design was applied, including 143 participants aged 16-70 years with at least 20 natural teeth who met the inclusion criteria. All participants completed a demographic information form, an oral hygiene questionnaire, and the Obsessive-Compulsive Inventory-Revised (OCI-R). Clinical examination assessed tooth wear using the Bartlett Tooth Wear Index and gingival recession using the Miller Classification. Data were analyzed with SPSS 27.0. Group comparisons were performed with the Mann-Whitney U test, and correlations were examined with Spearman's correlation and regression analysis.

Results: Of the participants, 18.9% scored OCI-R ≥ 21 , indicating higher obsessive-compulsive symptoms. Females brushed more frequently than males, and younger participants brushed more often than older individuals ($p < 0.05$). Gingival recession scores did not differ significantly between high and low OCI-R groups ($p > 0.05$). However, occlusal enamel (OE3), occlusal dentin (OD2), and cervical (C3) wear scores were significantly higher in the high OCI-R group ($p < 0.05$). Weak-to-moderate correlations were observed between the OCI-R ordering subscale and selected occlusal wear parameters. Overall, no strong associations were found between total OCI-R scores and tooth wear or gingival recession.

Conclusion: The findings suggest that while gingival recession may not increase in individuals with obsessive-compulsive symptoms, certain occlusal wear patterns may be more prevalent. Obsessive behaviors such as excessive toothbrushing, bruxism, and ordering compulsions may play a role in these outcomes. Dental practitioners should consider these behavioral factors when providing preventive strategies and oral hygiene education. A multidisciplinary approach is recommended to optimize the oral health management of individuals with obsessive-compulsive tendencies.

Keywords: Obsessive-compulsive disorder, tooth wear, gingival recession

INTRODUCTION

Obsessive-compulsive disorder (OCD) is a disorder closely associated with anxiety and depression, with distinct perceptual and behavioral symptoms.¹ It is a chronic, anxiety-based psychiatric disorder characterized by recurrent thoughts (obsessions) that the individual cannot control and repetitive behaviors (compulsions) aimed at neutralizing these thoughts.² The most common obsessions include fear of contamination, orderliness, and doubt, while compulsions include excessive hand washing, repeated checking, or performing specific rituals.³ According to the World Health Organization (WHO), OCD is one of the ten mental illnesses that most affect quality of life.⁴ It occurs in approximately 2-3% of the population, typically beginning during adolescence and potentially persisting throughout life.⁵ This disorder is often comorbid with other psychiatric conditions such as major depression, generalized anxiety disorder, tic disorders, and body dysmorphic disorder.⁶

Obsessions with themes of cleanliness, order, symmetry, and control can significantly affect the daily habits of individuals with OCD. In this context, oral hygiene practices may also become excessive as part of compulsive cleaning behaviors. The literature reports that the frequency of tooth brushing among OCD patients is higher compared to healthy individuals, while the brushing duration does not differ significantly.⁷ Another study strongly demonstrates a clinically significant and direct relationship between OCD and tooth brushing behavior.⁸ Individuals with OCD spend longer amounts of time on most routine daily activities compared to others.⁹ Frequent and forceful tooth brushing may predispose to hard tissue wear and gingival recession in the long term, while in the short term it may reduce plaque accumulation and lower the incidence of caries. However, obsessive cleaning behaviors may also lead to excessive and inappropriate use of oral care products. Considering all these factors, it is thought that

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the oral hygiene habits of individuals with OCD have both protective and harmful potential, thus requiring special evaluation and guidance in terms of oral health.

Although the frequency and duration of tooth brushing are of fundamental importance in maintaining oral hygiene, the intensity and manner of these habits can cause mechanical trauma to oral tissues. Particularly, brushing performed excessively and without control may result in enamel and dentin loss in the cervical region, increasing non-carious tooth wear.¹⁰ The wear index defined by Bartlett et al.¹¹ provides an objective assessment of such hard tissue losses. In addition, inappropriate brushing techniques can also cause gingival recession. This condition is clinically staged according to the Miller classification.¹² Compulsive behaviors related to cleanliness and hygiene are frequently observed in individuals with OCD, and it has been reported that these individuals may have a tendency to brush their teeth more than once a day, for prolonged durations, and with excessive force. Although this may improve plaque control, it can predispose to undesirable outcomes such as tooth wear, gingival recession, and dentin hypersensitivity.^{13,14} Therefore, oral hygiene habits associated with psychiatric conditions such as OCD should be evaluated not only in terms of frequency, but also in relation to the method, duration, and psychological origins of these practices.¹⁵ The aim of this study is to evaluate gingival recession and tooth wear findings in individuals with OCD symptoms and to investigate possible associations between these findings and the severity of obsessive-compulsive symptoms, tooth brushing habits, and demographic characteristics. The study has two null hypotheses:

- There is no difference in the amount of gingival recession between individuals with OCD symptoms and healthy individuals.
- There is no difference in tooth wear scores between individuals with OCD symptoms and healthy individuals.

METHODS

This study was designed as a cross-sectional clinical research study and was conducted at the Department of Restorative Dentistry, Faculty of Dentistry, İnönü University, between June and August 2025. All procedures were carried out in accordance with the ethical rules and the principles of the Declaration of Helsinki.

Power Analysis

The sample size of the study was calculated using G*power 3.1 software to evaluate the difference between two independent groups. With an effect size of Cohen's $d=0.48$, a significance level of $\alpha=0.05$, and a statistical power $(1-\beta)=0.80$, a total of 140 participants (70 per group) were required. Under these parameters, the actual power of the study was calculated as 80.5%.

Inclusion Criteria

Individuals aged between 16 and 70 years, who could read and understand Turkish, and who had given written informed consent were included in the study. Participants were required to have at least 20 sound and clinically examinable natural teeth, to be free of fixed or removable prostheses, and to have no maxillary or mandibular tooth loss at a level that would hinder assessment. In addition, participants had to

be capable of maintaining self-care independently and had to have completed the Obsessive-Compulsive Inventory-Revised (OCI-R), demographic data form, and oral hygiene habits questionnaire fully. Participants were not undergoing active treatment for any systemic or psychiatric illness and were not on regular medication. Only individuals who met the intraoral conditions for the application of the Exact Tooth Wear Index and the Miller classification of gingival recession during clinical examination were included.

Exclusion Criteria

Individuals who used regular medication or were under active medical treatment due to systemic or psychiatric illness were excluded. Those using fixed or removable prostheses, those with fewer than 20 natural and clinically examinable teeth, and those with structural anomalies of the jaw or facial region were also excluded. Additionally, individuals with extensive tooth loss hindering evaluation, severe periodontal disease, untreated active caries, or oral infections were not included. Participants who left questionnaires incomplete or refused clinical examination were also excluded from the analysis.

Tests Used in the Study

Obsessive-Compulsive Inventory-Revised (OCI-R): The OCI-R is a self-report instrument developed to assess the severity and prevalence of obsessive-compulsive disorder symptoms. Developed by Foa et al.,¹⁶ the inventory consists of 18 items rated on a 5-point Likert Scale (0=not at all, 4=extremely). The scale comprises six subscales: washing, checking, ordering, obsessing, hoarding, and mental neutralizing. Each subscale consists of 3 items, and both subscale scores and a total score can be calculated. Higher scores indicate increased severity of obsessive-compulsive symptoms. The OCI-R is widely used both in clinical diagnosis and research, with strong validity and reliability. A Turkish validity and reliability study has been conducted and cultural adaptation confirmed.¹⁷

Miller classification of gingival recession: The Miller Classification of Gingival Recession is a clinical classification system developed to evaluate the extent and severity of gingival recessions.¹⁸ This system categorizes recession from class I to class IV based on criteria such as the width and height of recession, condition of surrounding tissues, and the position of the mucogingival junction.

- **Class I:** Gingival recession limited to the cemento-enamel junction (CEJ), with no papilla loss; does not extend beyond the mucogingival junction.
- **Class II:** Recession extends beyond the mucogingival junction but without papilla or interproximal bone loss.
- **Class III:** Recession extending beyond the mucogingival junction with mild-to-moderate papilla or interproximal bone loss.
- **Class IV:** Advanced papilla and bone loss with recession evident in both horizontal and vertical dimensions.

The Miller classification allows systematic evaluation of soft tissue loss in periodontal tissues and is widely used for treatment planning and research.

Exact Tooth Wear Index (ETI): Following the Tooth Wear Index (TWI) developed by Smith and Knight¹⁹ in 1984, Bartlett et al.¹¹ developed the ETI to provide a more detailed description of enamel-level tooth wear. This index evaluates



enamel tissue with 5 scores, dentin with 6 scores, and the cervical tooth region with 4 scores.

Demographic and Dental Health Questionnaire: Behavioral aspects such as daily tooth brushing frequency, brushing duration, sense of control during brushing, repetitive behaviors, and use of oral care products were assessed with open-ended and multiple-choice questions. Subjective evaluations of symptoms such as perceived oral discomfort, gingival bleeding, sensitivity, and esthetic concerns were also included.

Procedure

Prior to participation, individuals who met the eligibility criteria were informed in detail about the purpose, process, and voluntary nature of the study, and written informed consent was obtained from each participant. Following consent, participants completed the Demographic and Dental Health Questionnaire and the OCI-R form under the supervision of a psychologist. After completing the questionnaires, participants underwent intraoral clinical examination, during which tooth wear was assessed using the ETI. In the same session, gingival recession was recorded based on the Miller Classification. All measurements were performed by two dentists under standardized lighting conditions and in accordance with the clinical examination protocol.

Calibration

The indices were recorded by two dentist researchers (FÖ and RÇ). To ensure calibration between researchers, they underwent a period of theoretical training with practical exercises conducted on dental students. The training involved both examiners recording the index independently on the same subjects, discussing the results, and then re-examining several subjects to compare outcomes again. Both examiners scored the same conditions, compared their results, and discussed their experiences. This process continued across different subjects until both examiners consistently assigned the same scores for each surface, achieving at least 90% agreement across the full dentition.

Statistical Analysis

All data analyses were performed using SPSS Statistics for Windows, Version 27.0 (IBM Corp., Armonk, NY, USA). The distribution of groups was assessed using the Kolmogorov-Smirnov test. For independent groups not showing normal distribution, the Mann-Whitney U test was applied. Spearman's rho correlation analysis was used to examine relationships between variables. Linear regression analysis was conducted to evaluate the predictors of tooth wear scores. Statistical significance was set at $p < 0.05$.

RESULTS

A total of 143 individuals, including 61 males and 82 females, participated in the study.

Statistical analyses revealed that females brushed their teeth more frequently than males ($r = 0.18$, $p = 0.032$). In the age-based evaluation, daily tooth brushing frequency was higher in the group under 35 years of age ($r = 0.19$, $p = 0.02$). Gingival recession was greater in individuals aged 35 years and above. Gingival recession in teeth M1 and M3 was significantly higher ($r = 0.32$, $p < 0.001$; $r = 0.34$, $p < 0.001$) (Table 1).

Table 1. The gender, age, DTBF, TBD, and OCI-R questionnaire scores of the participants in the study

	Male (n=61)	Female (n=82)	Average (n=143)
Age	33.05 (1.64)	32.85 (1.20)	32.94 (1.65)
DTBF	1.49 (0.08) ^A	1.76 (0.08) ^B	1.64 (0.7)
TBD	2.25 (0.14)	2.09 (0.12)	2.13 (1.1)
OCI-R	13.92 (0.92)	13.89 (0.98)	13.9 (8.15)
Under 35 (n=61) 35 years and over (n=82)			
Age	24.46 (0.57) ^A	44.33 (0.96) ^B	32.94 (1.65)
DTBF	1.74 (0.08) ^A	1.51 (0.09) ^B	1.64 (0.7)
TBD	2.06 (0.12)	2.28 (0.14)	2.13 (1.1)
OCI-R	13.52 (0.92)	14.41 (1.02)	13.9 (8.15)

Letters indicate significant differences within the same row; values sharing a letter do not differ. DTBF: Daily tooth brushing frequency, TBD: Tooth brushing duration, OCI-R: Obsessive-Compulsive Inventory-Revised, r: Mann-Whitney's effect size

In the grouping of OCI-R and its subscales according to the OCI-R threshold score of 21, as expected, the scores of the groups showing OCI-R symptoms were significantly higher. Among the subscales, washing (OCI-R ≥ 21) was the group with the highest score (Table 2).

Table 2. Comparison of OCI-R subgroups based on the OCI-R threshold score

	Under 21 (n=116)	21 and over (n=27)	
OCI-R	8.7 (0.51) ^A	22.48 (0.60) ^B	$r = 83$, $p < 0.001$
Washing	1.84 (0.11) ^A	4.19 (0.15) ^B	$r = 0.7$, $p < 0.001$
Checking	1.63 (0.1) ^A	4.13 (0.14) ^B	$r = 0.78$, $p < 0.001$
Ordering	1.6 (0.12) ^A	4.09 (0.18) ^B	$r = 0.7$, $p < 0.001$
Obsessing	0.85 (0.08) ^A	2.59 (0.15) ^B	$r = 0.67$, $p < 0.001$
Hoarding	1.09 (0.1) ^A	3.28 (0.21) ^B	$r = 0.62$, $p < 0.001$
Mental neutralizing	1.83 (0.1) ^A	4.13 (0.14) ^B	$r = 0.73$, $p < 0.001$

Letters indicate significant differences within the same row; values sharing a letter do not differ. OCI-R: Obsessive-Compulsive Inventory-Revised, r: Mann-Whitney's effect size, p: Significance value

In the evaluations, age scores were evenly distributed in both groups ($p > 0.05$). The number and duration of daily tooth brushing were similar in both groups. Gingival recession was also similar between the two groups, although it was higher in the group with scores below 21. Advanced tooth wear scores of 2 and 3, indicating more severe wear on occlusal and cervical surfaces, were higher in the group showing OCI-R symptoms (Table 3). Accordingly, OM3 ($r = 0.28$, $p = 0.031$), S3 ($r = 0.17$, $p = 0.036$), OD2 ($r = 0.20$, $p = 0.013$), and PD2 ($r = 0.20$, $p = 0.013$) tooth wear scores were significantly higher, and the differences were statistically significant. On the other hand, BM3 ($r = 0.18$, $p = 0.31$) and PD1 ($r = 0.25$, $p = 0.003$) scores were higher in the healthy group, with statistically significant differences (Table 3). According to the correlation analysis, the OCI-R ordering subscale score showed weak to moderate negative correlations with OM1 and OD0 wear scores, and positive correlations with OM3, OD1, and OD2 wear scores. However, the overall variance explained by the regression models was low, indicating that the ordering subscale had a limited predictive effect on wear scores (Table 4).

DISCUSSION

In this study, the effects of OCD symptoms on gingival recession and tooth wear were evaluated in 143 patients



Table 3. Comparison of age, DTBF, TBD, OCD, Miller gingival recession, and tooth wear scores according to the OCI-R threshold score of individuals participating in the study

Groups	Under 21	21 and over	Groups	Under 21	21 and over
Age	33.21 (1.23)	32.48 (1.62)	.	.	.
DTBF	1.63 (0.08)	1.67 (0.10)	.	.	.
TBD	2.17 (0.11)	2.13 (0.17)	.	.	.
M1	5.79 (0.56)	4.63 (0.62)	.	.	.
M2	2.28 (0.36)	1.48 (0.19)	.	.	.
M3	0.27 (0.09)	0.11 (0.04)	.	.	.
M4	0.02 (0.02)	0 (0)	.	.	.
OE0	0 (0)	0 (0)	OD0	13.6 (0.71)	12.44 (1.08)
OE1	2.88 (0.55)	2.24 (0.63)	OD1	10.75 (0.58)	10.63 (0.72)
OE2	15.3 (0.69)	13.2 (0.99)	OD2	1.11 (0.22) ^A	2.11 (0.42) ^B
OE3	6.61 (0.63) ^A	9.41 (0.94) ^B	OD3	0.05 (0.03)	0.09 (0.06)
OE4	0.7 (0.36)	0.8 (0.35)	OD4	0 (0)	0 (0)
OR	0.69 (0.12)	0.78 (0.16)	OD5	0.01 (0)	0 (0)
BE0	0 (0)	0 (0)	BD0	25.14 (0.34)	25.7 (0.41)
BE1	22.73 (0.72)	22.41 (1.13)	BD1	0.58 (0.13)	0.46 (0.14)
BE2	2.65 (0.48)	3.48 (0.81)	BD2	0.39 (0.09)	0.28 (0.10)
BE3	0.75 (0.27) ^A	0.37 (0.26) ^B	BD3	0.1 (0.04)	0.11 (0.04)
BE4	0.01 (0.01)	0 (0)	BD4	0 (0)	0 (0)
BR	0.14 (0.05)	0.09 (0.06)	BD5	0.01 (0)	0 (0)
C0	3.69 (0.75)	4.83 (0.94)	.	.	.
C1	17.95 (0.71)	16.63 (0.77)	.	.	.
C2	4.42 (0.48)	4.57 (0.61)	.	.	.
C3	0.13 (0.04) ^A	0.15 (0.10) ^B	.	.	.
CR	0.17 (0.09)	0.04 (0.03)	.	.	.
PE0	0 (0)	0 (0)	PD0	25.36 (0.33)	25.89 (0.34)
PE1	21.26 (0.60)	22.24 (0.56)	PD1	0.52 (0.08) ^A	0.22 (0.07) ^B
PE2	3.85 (0.33)	3.52 (0.39)	PD2	0.19 (0.06) ^A	0.02 (0.02) ^B
PE3	0.85 (0.22)	0.37 (0.13)	PD3	0.05 (0.03)	0 (0)
PE4	0.2 (0.12)	0.06 (0.06)	PD4	0 (0)	0 (0)
PR	0.18 (0.06)	0.17 (0.07)	PD5	0 (0)	0.02 (0)
E	1.8 (0.26)	1.31 (0.25)	.	.	.

Statistical comparisons were made only between groups in the same row (e.g., OE4 for 21 and under versus 21 and over). Comparisons were not made between different levels (e.g., OE4 versus OE3). DTBF: Daily tooth brushing frequency, TBD: Tooth brushing duration, OCD: Obsessive-compulsive disorder, OCI-R: Obsessive-Compulsive Inventory-Revised, M1/M2/M3/M4: Miller gingival recession, OE: Occlusal enamel, BE: Buccal enamel, C: Cervical, PE: Palatal enamel, OD: Occlusal dentine, BD: Buccal dentine, PD: Palatal dentine, E: Extracted

admitted to the clinic. The main findings of our study were the absence of a strong expected relationship between OCI-R scores and tooth wear or gingival recession, but the presence of weak-to-moderate correlations between the ordering subscale and certain occlusal tooth wear parameters.

In our study, the OCI-R scale was used to assess obsessive-compulsive symptoms. This scale was preferred due to its strong psychometric properties and widespread use in both clinical and research settings.^{20,21} In a validation study conducted in a clinical sample, Abramovitch and Deacon reported that the OCI-R is an empirically validated tool that can be used in OCD research across various clinical and research contexts.²⁰ For the evaluation of tooth wear, the ETI was chosen because of its ease of application and ability to provide standardized measurements. In a prevalence study conducted by Bartlett and colleagues among young adults in Europe, they reported that the index was preferred for measuring the severity and distribution of tooth wear because

it allowed ease of use in clinical practice and standardized recording.²² For the classification of gingival recession, the Miller classification was used. This classification has been widely adopted in the literature because of its prognostic value in the clinical decision-making process and its guidance for treatment planning. In a systematic review, Chambrone and Avila-Ortiz²³ stated that the vast majority of clinical studies published to date have used the Miller classification, due to its prognostic value and broad acceptance in clinical application.

In our study, of the 143 participants from the general population, 27 (18.9%) scored ≥ 21 on the OCI-R cut-off and were considered to show OCD symptoms, while 116 (81.1%) scored below this threshold (Table 2). This distribution is consistent with findings reported in the literature regarding prevalence rates in general population and non-clinical samples. Although age distribution was balanced, females brushed their teeth more frequently than males, and individuals under the age of 35 brushed more frequently,



Table 4. Correlation between OCI-R subgroups and tooth wear scores

	OE0	OE1	OE2	OE3	OE4	OD0	OD1	OD2	OD3	OD4
OCI-R	.	-0.042	-0.079	0.154	0.028	-0.099	0.052	0.094	0.004	.
Washing	.	-0.042	-0.006	0.114	0.014	-0.026	-0.048	0.068	0.081	.
Checking	.	0.063	-0.148	0.113	0.084	-0.036	-0.057	0.085	0.027	.
Ordering	.	-.169*	-0.043	.255**	-0.069	-.254**	.202*	.188*	-0.009	.
Obsessing	.	-0.007	-0.084	0.091	0.121	-0.038	-0.01	0.104	-0.027	.
	BE0	BE1	BE2	BE3	BE4	BD0	BD1	BD2	BD3	BD4
OCI-R	.	0.027	0.114	-0.093	-0.027	0.021	0.055	0.072	0.046	0.131
Washing	.	0.003	0.113	-0.124	-0.035	0.011	0.039	0.035	0.071	.
Checking	.	0.095	0.009	-0.054	-0.031	0.116	0.032	0.024	0.156	.
Ordering	.	-0.03	0.16	-0.161	-0.022	0.005	0.056	0.046	0.115	.
Obsessing	.	0.061	0.067	-0.08	-0.113	0.084	0.04	0.002	0.112	.
	PE0	PE1	PE2	PE3	PE4	PD0	PD1	PD2	PD3	PD4
OCI-R	.	0.047	0.014	-0.094	-0.078	0.084	0.085	-0.029	-.169*	-0.121
Washing	.	0.027	0.039	-0.004	-0.109	0.069	0.023	-0.091	-0.135	.
Checking	.	0.052	0.009	-0.098	0.004	0.114	-0.081	-0.138	-0.061	.
Ordering	.	0.063	0.025	-.189*	-0.098	0.079	-0.083	-.234**	-0.129	.
Obsessing	.	0.061	0.005	-0.078	-0.067	0.095	-0.002	-.174*	-0.102	.
	C0	C1	C2	C3						
OCI-R	0.093	-0.126	0.069	-0.063						
Washing	0.052	-0.077	0.062	-0.007						
Checking	.190*	-0.161	-0.036	-0.107						
Ordering	-0.001	-0.079	0.137	-0.055						
Obsessing	.184*	-0.149	-0.014	-0.114						

*The correlation is significant at the 0.01 level.

**The correlation is significant at the 0.05 level.

OCI-R: Obsessive-Compulsive Inventory-Revised, OE: Occlusal enamel, BE: Buccal enamel, C: Cervical, PE: Palatal enamel, OD: Occlusal dentine, BD: Buccal dentine, PD: Palatal dentine

consistent with previous studies.²⁴ These demographic differences indicate that oral health behaviors are influenced by gender and age factors (Table 1, and 3).

In our study, there was no difference in the amount of gingival recession between individuals with and without OCD symptoms. Conflicting results exist among similar studies in the literature. Moharrami et al.,⁷ in a comparative study with 92 participants, reported no significant difference in gingival recession between individuals with OCD symptoms and the control group. In that study, despite higher brushing frequency and Lower Plaque Index in the OCD group, the amount of gingival recession was found to be similar. The Canadian Dental Hygienists Association reported that obsessive cleaning-oriented behaviors may lead to gingival recession, gingival irritation, and tooth sensitivity.²⁵ Philip et al.,²⁶ in a case series study on the dental manifestations of OCD, reported that enamel injuries, gingival changes, and tooth wear were the most common dental findings. It is known that gingival recession in OCD patients depends not only on brushing frequency but also on factors such as brushing technique, type of toothbrush used, and the amount of force applied. In conclusion, the findings suggest that increased brushing frequency in OCD patients does not necessarily lead to gingival recession, and that when proper technique is used, it may even have a protective effect. Based on these findings, our first hypothesis-that there is no difference in the amount of gingival recession between individuals with and without OCD symptoms-was accepted.

To the best of our knowledge, no study has directly examined the relationship between OCD and tooth wear. In a recent study with 240 participants, Özyurt et al.²⁷ reported that OCD was significantly higher in the bruxism group compared to the control group, and that the frequency of bruxism was increased in the OCD group. Bruxism is known to be one of the causes of tooth wear, and it has been reported that 93% of wear in occlusal contact areas is attributed to bruxism.²⁸ These findings suggest that there may be a relationship between OCD symptoms and bruxism. However, in our study, no significant correlation was found between the total OCI-R score and tooth wear parameters (Table 4). On the other hand, weak-to-moderate positive correlations were identified between the ordering subscale and OM3, OD1, and OD2 (Table 4). This finding suggests that individuals may be in constant search of achieving a perfectly correct occlusion. Those with ordering obsessions may repeatedly engage in tightening and relaxing their jaw muscles to ensure proper tooth closure, which may lead to occlusal surface wear.²⁹ In a study conducted by Piccoli et al.²⁸ on patients with mental disorders, a direct correlation between psychiatric disorders and tooth wear was reported, and chronic exposure to neuroleptic drugs was found to induce bruxism phenomena. These findings support the association identified in our study between the ordering subscale and occlusal wear. The fact that the washing subscale showed the highest scores, and that individuals with OCI-R symptoms exhibited higher daily tooth brushing frequency, is consistent with the findings of Moharrami et al.⁷ (Table 2). In



that study, OCD patients were reported to have significantly higher brushing frequency and lower caries experience compared to the control group.

In our study, the finding that buccal wear scores, except for BM2, were generally higher in the healthy group was unexpected. This may suggest that excessive brushing behavior in individuals with OCD symptoms could have a protective effect on buccal surfaces. In a study conducted by Martinovic et al.⁴ among biomedical students, it was shown that obsessive-compulsive personality disorder traits may positively influence oral health behaviors through characteristics such as perfectionism and attention to detail. This finding may explain the higher brushing frequency observed in our study. Based on the findings obtained, our second hypothesis—that there is no difference in tooth wear scores between individuals with and without OCD symptoms—was partially accepted.

Limitations

There are various limitations to our study. Its cross-sectional design makes it impossible to establish causal linkages. Longitudinal investigations are required to assess causality, given the findings only suggest concurrent relationships. The very small sample size is another drawback, which could result in lower statistical power, especially in subgroup analysis. In addition, none of the participants had a formal diagnosis of OCD, meaning that they were not experiencing the disorder at a clinical level. While an OCI-R score above 21 indicates the presence of marked obsessive-compulsive symptoms, this may still represent a milder level compared to clinically diagnosed OCD. Therefore, future studies that directly compare clinically diagnosed OCD patients with healthy controls are needed to better clarify the long-term effects of obsessive behaviors on oral health.

CONCLUSION

As a result, although our study did not identify a strong relationship between OCD symptoms and tooth wear, the association between the ordering subscale and occlusal wear is noteworthy. The higher tooth brushing frequency observed in OCD patients indicates that their oral health behaviors differ from those of healthy individuals. These findings emphasize the importance of a multidisciplinary approach and highlight the necessity for dentists to consider patients' mental health status when planning treatment. Monitoring occlusal wear in patients with OCD symptoms is recommended. It is important for dentists to recognize excessive brushing behaviors in OCD patients and provide appropriate oral hygiene education. The use of soft toothbrushes and instruction on proper brushing techniques in these patients may help prevent potential damage.

ETHICAL DECLARATIONS

Ethics Committee Approval

The study was carried out with the approval of the İnönü University Clinical Researches Ethics Committee (Date: 24.06.2025 Decision No: 2025/7774).

Informed Consent

All patients signed and free and informed consent form.

Referee Evaluation Process

Externally peer-reviewed.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

Financial Disclosure

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Author Contributions

All of the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version

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