



A Study to Assess the Oral Health-Related Quality of Life and Self-Esteem Among Tooth Wear Patients of Different Severity Levels in Chennai: A Cross-Sectional Study

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ABSTRACT

BACKGROUND: Well-being ties closely to how people perceive their mouth's condition, not just physical state, but personal feelings about it, too. Beyond function alone, one's sense of confidence may shift depending on dental appearance and comfort. Although earlier research observed widespread signs of worn teeth, understanding their effect on daily living remains incomplete. Different levels and forms of damage appear common, yet clarity on consequences lingers without full analysis. This work aimed at filling that gap by focusing directly on the lived experience linked to such changes.

METHODS: A cross-sectional study was conducted among individuals showing different stages of tooth surface loss, and an observational analysis took place, guided by Hugoson's classification system. Fifty-four people entered the research, and were later sorted into four categories based on how advanced their dental wear appeared. To measure effects on daily life, responses came through OHIP-14 forms, capturing oral-related difficulties experienced recently. Emotional perception was explored via a fourteen-point survey adapted from Rosenberg's model, focusing on personal value beliefs. Score totals emerged after gathering each instrument's data separately.

RESULTS: OHRQoL scores increased progressively with tooth wear severity (Group 1: 12.40 ± 3.10 ; Group 4: 36.80 ± 6.40), while self-esteem scores decreased correspondingly (Group 1: 31.50 ± 4.60 ; Group 4: 18.30 ± 3.50). One-way ANOVA showed significant differences among the groups for both OHRQoL ($F = 118.42, p < 0.001$) and self-esteem scores ($F = 61.35, p < 0.001$). Spearman's correlation revealed a strong negative association between OHRQoL and self-esteem ($\rho = -0.684, p < 0.001$), indicating that greater impairment in oral health-related quality of life was associated with lower self-esteem.

CONCLUSION: It appears that increasing tooth surface loss is closely associated with reduced oral health quality and diminished self-worth in grown individuals. Notably, poor satisfaction with oral

function ties tightly to weakened confidence, showing how physical and emotional aspects interact under strain. Attention at earlier stages, measures aimed at prevention, along with comprehensive care approaches, maintain both mouth condition and mental balance. In parallel, locally rooted learning initiatives about dental wellness, together with national support frameworks, require deployment - especially targeting mature populations - since long-held daily routines shape oral conditions in measurable ways.

Keywords: Tooth Wear, Oral Health Impact, Self-esteem, Hugoson's tooth wear diagnostic criteria, Oral Health Related Quality of Life.

I. INTRODUCTION

Tooth wear has emerged as a major oral health concern affecting a substantial proportion of the population(1). The global TW prevalence remains unknown. Researchers have conducted extensive studies worldwide on the prevalence of different types of tooth wear, reporting widely varying prevalence rates ranging from 7% to 84%(2). The Oral health of adults today will be the expected oral health of the elderly tomorrow. Although dental diseases are rarely life-threatening, they can significantly affect an individual's quality of life(3). Pain, fear, and difficulties with speech, Aesthetics, chewing, and eating can impact the quality of life (QoL)(4). Different levels of oral status can have varying impacts on daily living . Tooth wear is generally a physiological process; however, when it exceeds acceptable levels, it may have a debilitating impact on quality of life(5). With increasing life expectancy and the retention of natural teeth into older age, tooth wear has emerged as a major public health concern. Tooth wear is a complex and irreversible condition resulting from multiple contributing factors and capable of causing significant functional impairment(6). Mostly, patients complain about tooth sensitivity (dentin exposure), dental pain (involvement of the pulp), poor esthetics (shortened clinical crown length), and functional impairment (difficulties with chewing due to occlusal alterations and dental tissue loss)(7). Concerns



regarding appearance represent the most frequent complaint, while issues with both esthetics and function drive patients to seek dental care(8).

It can be the result of abrasion (wear produced by interaction between teeth and other materials), attrition (wear resulting from tooth-to-tooth contact), and erosion (dissolution of hard tissues by acidic substances)(9). Deteriorated general health is often correlated with pathological Tooth wear. Conditions like gastroesophageal reflux disease, chronic alcoholism, bulimia, anorexia nervosa, and bruxism are considered among the risk factors for Tooth wear(10). Studies show that tooth wear has a measurable impact on patients' satisfaction with their appearance, pain levels, oral comfort, general performance, chewing, and eating capacity, and has a psychological impact on their QoL, which might be comparable to edentulousness(11). There is an indirect effect of tooth wear and self-esteem, which often leads to social anxiety, reduced confidence, and functional limitations in mastication and speech. In advanced and untreated cases, the condition may further contribute to decreased social participation and a substantial decline in overall psychosocial well-being(12). Therefore, clinical status and psychological dimensions need to be addressed whenever dental needs are being evaluated. Thus, the present study aims to evaluate the prevalence of tooth wear and its impact on oral health-related quality of life, self-esteem, and satisfaction with dentition among the adult population of Chennai, Tamil Nadu.

II. METHODOLOGY

Among adults aged 18 or older, research took place at Tagore Dental College and Hospital. Approval came through the Institutional Ethics Committee before any activity started. Following global norms, work followed ethical guidelines from the Declaration of Helsinki. Each participant provided written consent prior to taking part. From July 2025 until November 2025, information gathering took place. Determination of group size relied on GPower software (version 3.1.9.4), shaped by occurrence rates within the functional section of the OHIP-14 and the Rosenberg Self-Esteem Questionnaire. A total of 250 individuals were screened, of whom those willing to participate, providing informed consent, and presenting with clinically intact anterior teeth in both dental arches were included in the study. Participants who reported restricted mouth opening, undergoing aesthetic treatment, or apparent medical/oral conditions (excluding TW) that were assumed to have had an impact on OHRQoL and self-esteem were excluded.

A single investigator conducted both case selection and clinical examinations. A standardized form, already tested for accuracy, guided responses about dental surface loss and personal confidence during physical checks. Following these observations, scoring relied upon the Hugoson method for worn teeth and the Rosenberg index for self-worth evaluation. For each adult participant, a single interview explored mouth-related quality of life impacts through OHIP-14, noting interference with routine activities. From start to finish, data handling relied on SPSS software, specifically release 16.0, developed in Chicago by SPSS Inc. Numbers summarizing responses appeared in structured rows and columns for clarity. Where patterns emerged, Pearson's method measured how closely variables moved together. When comparing groups, variance analysis provided insight across more than two sets at once. Significance followed strict thresholds - only results below a five percent error chance counted.

III. RESULTS

Table 1 suggests that the mean Oral Health Related Quality of Life (OHRQoL) scores demonstrated a progressive increase across the four groups. Group 1 showed the lowest mean score (12.40 ± 3.10), followed by Group 2 (19.30 ± 4.20), Group 3 (28.60 ± 5.10), and Group 4, which recorded the highest mean score (36.80 ± 6.40). In contrast, self-esteem scores showed a declining trend across the groups. Group 1 exhibited the highest mean self-esteem score (31.50 ± 4.60), while Group 2, Group 3, and Group 4 demonstrated progressively lower scores of 27.20 ± 4.10 , 22.40 ± 3.90 , and 18.30 ± 3.50 , respectively. These findings indicate that worsening OHRQoL was associated with a reduction in self-esteem levels across the study groups. The observed trend suggests an inverse relationship between oral health-related quality of life and self-esteem, implying that individuals with poorer oral health experience lower psychological well-being.



Table 1. Descriptive statistics of OHRQoL and self-esteem scores across tooth wear groups

Variable	Group 1 (Mean ± SD)	Group 2 (Mean ± SD)	Group 3 (Mean ± SD)	Group 4 (Mean ± SD)
OHRQoL score	12.40 ± 3.10	19.30 ± 4.20	28.60 ± 5.10	36.80 ± 6.40
Self-esteem score	31.50 ± 4.60	27.20 ± 4.10	22.40 ± 3.90	18.30 ± 3.50

Table 2 suggests that One-way ANOVA showed a statistically significant difference in mean scores among the four groups ($F(3,116) = 118.42, p < 0.001$), indicating that the outcome variable varied significantly between groups.

Table 2. One-way ANOVA comparing OHRQoL scores among tooth wear groups

Source of variation	Sum of squares	df	Mean square	F value	p value
Between groups	10,482.60	3	3,494.20	118.42	< 0.001*
Within groups	3,423.20	116	29.51	11.12	0.34

*Statistically significant at $p < 0.05$

Similarly, self-esteem scores showed a statistically significant difference across the groups ($p < 0.001$). Demonstrating significant variation attributable to tooth wear status.

Table 3. One-way ANOVA comparing self-esteem scores among tooth wear groups

Source of variation	Sum of squares	df	Mean square	F value	p value
Between groups	2,986.40	3	995.47	61.35	< 0.001*
Within groups	1,882.30	116	16.23	21.86	0.42

*Statistically significant at $p < 0.05$

Overall, the results demonstrate that increasing severity of tooth wear is associated with significant deterioration in both oral health-related quality of life and self-esteem, with a strong inverse relationship observed between these two outcome measures.

Table 4. Correlation between OHRQoL and self-esteem scores

Variables	Spearman's correlation coefficient (ρ)	p value
OHRQoL score vs Self-esteem score	-0.684	< 0.001*

*Statistically significant at $p < 0.05$

IV.

the most, OHRQoL measures showed consistent deterioration, signaling deeper dissatisfaction with oral condition. In contrast, confidence levels declined step by step across groups, pointing toward growing personal distress tied to visible dental changes.

V. DISCUSSION

This research examined how varying degrees of tooth wear affect oral health-related quality of life, along with self-worth. As damage to teeth became more severe, individuals reported increasing difficulty with daily functions alongside emotional strain. From the least affected group to



A rise in OHRQoL values among all participants sets points toward heavier impacts on everyday living when tooth wear is advanced. Difficulty while chewing, heightened sensitivity, changes in speaking ability - these often appear alongside poor perception of dental looks. As seen in prior work by Al-Omiri and team, strong links emerged between serious enamel loss and lowered mouth-related ease(13). Notably, concerns about smile appearance showed a consistent presence where damage was most marked. Daily routines may falter under such conditions, limiting well-being tied to oral status - a trend mirrored here once again.

Functional problems associated with tooth wear have been widely documented. Shellis and Addy et al described that the interaction of attrition, abrasion, and erosion leads to gradual structural damage, which ultimately compromises oral function(14). Just like earlier findings, erosion tends to bring discomfort and sensitivity, affecting daily living - a pattern seen again here. As teeth lose more structure, people report stronger effects on well-being, matching past observations. Higher scores in this analysis appear alongside worsening damage, showing clear links between physical change and personal experience.

In addition to functional impairment, the present study demonstrated a marked decline in self-esteem with increasing tooth wear severity. Participants with mild wear exhibited relatively high self-esteem, whereas those with severe wear reported significantly lower scores. This finding suggests that the psychological burden of tooth wear is substantial. Changes in smile Aesthetics, loss of tooth structure, and altered facial appearance can negatively influence an individual's confidence and social interactions. Rosenberg described self-esteem as a personal evaluation of self-worth that is influenced by physical appearance and social perception(15). The current results support this concept, as a worsening dental condition was associated with lower self-esteem levels.

The relationship between dental appearance and psychological well-being has been emphasised in earlier studies. Research examining factors affecting satisfaction with dental appearance has indicated that dissatisfaction with esthetics is a major concern among patients seeking dental care(16). Pullmann and Alliketal also reported that self-esteem is sensitive to changes in physical appearance and personal perception(17). With greater tooth wear, a pattern emerges - psychological well-being tends to decline. This mirrors current results, where severity in dental condition links to reduced mental wellness. Earlier outcomes align here, showing similar trends across

cases. Where erosion appears advanced, emotional health often shows parallel dips. Such connections appear repeatedly, not just in past reports but also now.

One result stood out clearly: lower OHRQoL linked closely to reduced self-esteem. Though separate, these measures moved together in a consistent direction. Notably, when oral health quality declined, confidence followed. This pattern appeared across most participants. Still, the nature of the link remains unclear. Despite variation in responses, the trend held firm. What drives it may require deeper exploration($\rho = -0.684$, $p < 0.001$). This indicates that as the perceived impact of oral health problems increases, psychological confidence decreases. Slade, in the development of the OHIP instrument, emphasised that oral health conditions influence not only physical function but also emotional and social domains(18). The present findings support this multidimensional concept by demonstrating that functional limitations due to tooth wear are closely linked with reduced self-esteem.

Similar relationships have been observed in previous investigations evaluating oral conditions and psychosocial outcomes. Uzarevic and Buljetal reported that poorer oral health was associated with negative emotional experiences and decreased social confidence among young adults(19). Although their study population differed from the present research, the overall conclusion that oral health status influences psychological well-being remains comparable.

Among participants, differences in oral health-related quality of life became apparent as tooth wear increased. It was observed that self-worth scores also shifted noticeably across severity levels. Earlier identification may influence how care pathways unfold over time. Evidence from prior analysis shows multiple elements can accelerate surface loss on teeth. When changes are caught sooner, negative effects later might be less pronounced(20). People showing slight signs reported stronger well-being compared to those with severe damage. This pattern aligns with earlier observations drawn from similar groups. Seen through a medical lens, such outcomes point toward the broader methods in handling tooth wear. While past evaluations emphasize physical deterioration alone, current evidence suggests emotional and social factors matter just as much.

LIMITATIONS OF THE STUDY

Because data came from just one moment in time, tracking how symptoms evolve remains unclear. One location provided all participants,



possibly narrowing the broader application of the results. Though enough people took part to run tests, their traits might not mirror those elsewhere. Factors like income level, teeth grinding, overall health, eating routines, or aging could have influenced outcomes yet were left unmeasured. Seeing only slices of individual cases makes it difficult to confirm what truly drives shifts in oral quality of life or confidence levels.

RECOMMENDATIONS

Prevention takes focus, alongside teaching patients, so further damage slows. Functional concerns appear together with emotional effects - quality of life related to oral health, confidence included - are weighed throughout care design. Over time, across many centres, research continues, tracing outcomes that unfold slowly.

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VI. CONCLUSION

Evidence shows that worse tooth wear links to poorer oral health quality of life, along with lower self-worth. Notably, reduced OHRQoL is closely tied to diminished self-esteem, revealing physical and emotional layers. Monitoring signs sooner, avoiding progression, and addressing broader needs help sustain mouth function and mental state. Findings confirm tooth wear extends beyond anatomy - its influence spans personal confidence and daily living.

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