



BEZMÎÂLEM science

**DENTISTRY STUDENTS'
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ORAL PRESENTATIONS

OP-1

Evaluation of the Effects of Orthognathic Surgery on Patient Satisfaction and Quality of Life in Individuals with Skeletal Class II Malocclusion

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Introduction: Orthognathic surgery is a procedure performed to correct dentofacial deformities. Patient satisfaction is influenced by the success of the surgery, individual expectations, and psychological factors. This study aims to evaluate post-surgical satisfaction and quality of life in individuals with skeletal class II malocclusion using the Orthognathic Quality of Life Questionnaire (OQLQ).

Method: The study included 40 patients who underwent orthognathic surgery at Bezmialem Vakıf University and were at least six months post-operative. The OQLQ, which consists of four domains functional limitations, psychosocial impact, pain, and aesthetic concerns was used to assess quality of life and satisfaction. Data were analyzed using statistical methods.

Results: Patients were divided into two groups based on the median positive overjet value of 8.53 mm. While no significant differences were found between groups regarding total OQLQ score, social aspects, facial aesthetics, and awareness of facial deformity, a significant difference was found in oral function scores ($z=-2.482$, $p=0.014$). Individuals with lower overjet values reported higher quality of life. Additionally, a significant difference was observed in the response to the question “avoiding certain foods” ($z=-2.479$, $p=0.034$). A positive correlation was found between positive overjet and oral function scores. Wits appraisal showed a positive correlation with the oral function domain and question 6. A negative correlation was found between ANB angle and question 16, while the GoGn-SN angle was negatively correlated with questions 5, 16, and 19, as well as with awareness of facial deformity.

Conclusion: High positive overjet appears to negatively affect oral functions and eating habits. Most patients reported satisfaction with surgical outcomes, noting improvements both functionally and aesthetically.

Key words: Orthognathic surgery, quality of life, positive overjet, skeletal class II malocclusion

OP-2

Evaluation of Basic Anatomical Landmark Knowledge on Panoramic Radiographs Among 4th and 5th Year Dental Students Before and After Clinical Internship

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Introduction: This study aims to evaluate the effect of the oral and maxillofacial radiology internship on the ability of 4th and 5th year dental students to identify basic anatomical landmarks on panoramic radiographs.

Method: This study was conducted at the Faculty of Dentistry, Bezmialem Vakıf University during the 2023-2024 and 2024-2025 academic years. A total of 78 fourth-year and 74 fifth-year dental students participated. The students were asked to identify 35 anatomical landmarks marked on three panoramic radiographs. Data were collected via a questionnaire created on Google forms, and assessments were standardized using the university's multimedia room. Students were asked the same questions before and after completing their Oral and Maxillofacial Radiology internship. The percentages of correct answers before and after the internship were compared to analyzing student progress.

Results: Before the internship, the correct identification rate of anatomical landmarks was 39% for fourth-year students and 53% for fifth-year students. After the internship, these rates increased to 69% and 75%, respectively. The differences between pre- and post-internship responses were statistically significant, as determined by the Friedman test ($p < 0.05$). A comparison between the two grade levels using the chi-square test revealed a significant difference before the internship ($p = 0.023$), which was no longer statistically significant after the internship ($p = 0.120$).

Conclusion: The Oral and Maxillofacial Radiology internship significantly improves dental students' ability to identify anatomical reference points on panoramic radiographs. Radiological education plays a crucial role in enhancing diagnostic accuracy and evaluation skills in clinical practice.

Key words: Panoramic radiograph, anatomical landmarks, dental education

OP-3

Evaluation of Dental Interns' Attitudes Towards Brain Drain and Their Life Satisfaction: A Survey Study

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Introduction: This study aims to evaluate the attitudes of dental interns in Türkiye towards brain drain and explore the relationship between their academic year and the type of university they attend.

Method: This descriptive, cross-sectional study was conducted using an online questionnaire after obtaining ethical approval. The sample included 4th and 5th year dental interns from public and foundation universities across Türkiye. Data were collected using a Personal Information Form and the Brain Drain Attitude Scale. Informed consent was obtained from all participants, and the final sample included 504 students.

Results: Of the participants, 60.9% were female and 39.1% were male, with 94.6% in the 20-25 age range. Of these, 53.4% attended public universities and 46.6% attended foundation universities. There was no significant gender difference in pull factor scores ($p=0.246$), but push factor scores were significantly higher in females than in males ($p=0.041$). No significant differences were found based on age, university type, or academic year ($p>0.05$). The highest mean score was for the statement "I would prefer to live in a country where freedom of thought is greater" ($M=4.33\pm0.82$).

Conclusion: The main factors influencing dental interns' inclination to migrate abroad include the desire for freedom of expression, a sense of security, and future concerns. Higher push factor scores among women indicate gender-related differences. No significant differences were found based on age, university type, or academic year. Economic expectations also played a role in attitudes towards brain drain. The findings highlight the impact of individual and socio-political factors on career planning.

Key words: Brain drain, life satisfaction, dental interns, gender differences, career planning

OP-4

Investigation of the Relationship Between Implant-surrounding Gingival Biotype and Peri-implant Mucositis: A Cross-sectional Study

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Objective: Gingival biotype is a critical factor determining the stability of peri-implant soft tissues. Thick biotype generally provides better protection against peri-implant diseases, while individuals with a thin gingival biotype have an increased risk of gingival recession and inflammation. The aim of this cross-sectional study is to examine the effects of implant-surrounding gingival biotype on peri-implant tissue health through clinical parameters.

Method: In this study, 24 patients with at least one dental implant functioning for a minimum of one year and restored with a fixed prosthesis were included. The study was conducted at the Bezmialem University Department of Periodontology clinics starting in 2018. A total of 43 implant sites were evaluated. Implants with thick/medium biotype were included in the control group, while implants with thin gingival biotype were included in the test group. Clinical parameters, including gingival biotype, modified plaque index (mPI), bleeding on probing (BoP), and probing depth (PD), were measured at all implant sites. Implants were classified as “healthy” or “mucositis” based on clinical and radiographic evaluations. Differences between groups were analyzed using the Mann-Whitney U and chi-square tests, with statistical significance set at $p < 0.05$.

Results: No significant differences were found between the groups in terms of age, gender, or jaw location ($p > 0.05$). The test group showed significantly higher values of mPI, BoP, and PD compared to the control group ($p < 0.05$). Similarly, the prevalence of peri-implant mucositis was significantly higher in the test group ($p < 0.05$).

Conclusion: In our study, implant sites with a thin gingival biotype showed significantly higher clinical parameters and peri-implant mucositis prevalence compared to the control group. These findings emphasize the importance of gingival biotype in the prevention of peri-implant diseases.

Key words: Peri-implant mucositis, peri-implant health, gingival biotype, dental implant

OP-5

Evaluation of the Prevalence of Root Resorptions in Turkish Society by Cone-beam Computed Tomography Scanning

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Introduction: This study aims to detect root resorption in maxillary and mandibular teeth in the Turkish population using cone-beam computed tomography (CBCT) images and classify the prevalence of internal and external root resorption based on localization, gender, and age.

Method: CBCT images of patients visiting the Department of Oral and Maxillofacial Radiology, Faculty of Dentistry, Bezmialem Vakıf University between January 1, 2023, and December 30, 2023, were analyzed. Images with artifacts, poor quality, sectional scans, or lacking demographic information were excluded. The prevalence of internal and external root resorption was evaluated by age, gender, jaw, and localization. CBCT images were obtained using a Promax 3D-Mid (Planmeca, Finland) device with a voxel size of 0.25-0.40 mm.

Results: CBCT images of 1,202 patients were analyzed. Root resorption was found in 49 cases, including 26 females and 23 males, with no significant gender difference. Of the 49 cases, 40 were external root resorption and 9 were internal. Among these patients, 25 had images of only the maxilla, 14 had images of only the mandible, and 10 had images of both jaws. The Shapiro-Wilk test was used to assess the normality of quantitative variables, and Pearson chi-square and Fisher-Freeman-Halton tests were used for categorical variables, with a significance level of 0.05. Statistical analysis was performed using SPSS (version 28).

Conclusion: Due to the limitations of conventional radiographs, CBCT is preferred for detecting and analyzing internal and external root resorption, providing more accurate treatment protocols.

Key words: Internal root resorption, external root resorption, CBCT

OP-6

The Effect of Oral Irrigator and Interdental Brush Usage on Plaque in Patients Undergoing Fixed Orthodontic Treatment

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Introduction: The aim of this study was to evaluate the effectiveness of oral irrigator and interdental brush usage on plaque removal in patients undergoing fixed orthodontic treatment.

Method: The study included 60 individuals over the age of 12 who had been undergoing conventional orthodontic treatment for at least three months. Participants were divided into three groups: (1) brushing for 10 minutes using the Charters technique, (2) brushing for 2 minutes followed by oral irrigator usage, and (3) brushing for 2 minutes followed by interdental brush usage. Plaque levels were assessed before and after brushing using plaque-disclosing tablets, and plaque removal efficiency was analyzed statistically.

Results: Statistical analyses were performed using SPSS version 26.0. Since the data did not follow a normal distribution, Kruskal-Wallis and Dunn's test were applied. The results showed a statistically significant difference among the three methods ($p < 0.001$). The oral irrigator group achieved a significantly higher plaque removal percentage compared to the brushing-only group ($p = 0.001$). Similarly, the interdental brush group demonstrated significantly better plaque removal than the brushing-only group ($p < 0.001$). No significant difference was found between the oral irrigator and interdental brush groups ($p = 1.000$).

Conclusion: The findings suggest that the use of an oral irrigator or an interdental brush significantly improves plaque removal efficiency compared to brushing alone in patients with fixed orthodontic appliances. Therefore, incorporating these additional cleaning methods into daily oral hygiene routines may be beneficial for orthodontic patients.

Key words: Fixed orthodontic treatment, oral irrigator, interdental brush, plaque removal, oral hygiene

OP-7

Comparison of Surface Roughness in Ceramic CAD-CAM Blocks Subjected to Different Polishing Procedures

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Introduction: Surface roughness of restorative materials is a critical factor affecting biomechanical compatibility, aesthetic success, and biofilm accumulation, thus influencing the long-term clinical performance of restorations. This study aimed to evaluate and compare the surface roughness of feldspathic ceramic CAD-CAM blocks subjected to different polishing protocols.

Method: A total of 60 feldspathic ceramic blocks (14 mm×12 mm) were randomly divided into six groups. Group 1 underwent diamond bur abrasion followed by polishing with a porcelain polishing kit (EVE Technick Diapol Twist Porcelain Polishing Kit Eve Technic, Germany); group 2 received only bur abrasion; group 3 was polished only; group 4 was glazed. Group 5 served as the negative control (no surface treatment applied), while group 6 was designated as the positive control (untreated pre-milling surfaces). Surface roughness measurements were performed using a profilometer (MarSurf M 300 C; Mahr GmbH Gottingen, Germany), with values taken from three different points on each specimen and averaged. Data were statistically analyzed using Shapiro-Wilk and Levene tests for normality and homogeneity, respectively. Brown-Forsythe and Dunnett T3 tests were used for intergroup comparisons ($p<0.05$).

Results: Group 2 demonstrated the highest surface roughness values. Groups 1 and 3 exhibited significantly reduced roughness following polishing procedures. The lowest roughness values were recorded in group 4 (glazed group) ($p<0.05$). Group 5 had higher surface roughness than the polished and glazed groups, while group 6 showed significantly lower roughness than all other groups ($p<0.05$).

Conclusion: Glazing was found to be the most effective surface treatment for reducing surface roughness in CAD-CAM restorations. However, considering the potential wear of the glaze layer over time, mechanical polishing is recommended to enhance long-term clinical performance.

Key words: CAD-CAM, feldspathic ceramic, surface roughness, polishing, glazing, restorative dentistry

OP-8

Evaluation of the Relationship Between Unilateral Condylar Hyperplasia and Scoliosis

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Introduction: Unilateral condylar hyperplasia (UCH) is characterized by excessive growth of the mandibular condyle, causing facial asymmetry, while scoliosis is defined as a lateral curvature of the spine. This study evaluates the relationship between UCH and scoliosis.

Methods: The study included 123 patients aged 17-40 years (60 with UCH, 63 with scoliosis). Panoramic, lateral cephalometric, and posteroanterior (PA) radiographs were obtained. Fractal analysis was performed on 50x50 pixel regions of interest from the right and left condyles using ImageJ software. Lateral cephalometric radiographs were utilized to conduct cephalometric analyses according to the Steiner, Jarabak, and Tweed methods. PA radiographs were used to measure the conventional graft-anterior nasal spine-menton angle, menton deviation, and ramus lengths. The Cobb angle was calculated from anteroposterior radiographs for scoliosis evaluation. Temporomandibular joint function was assessed in 63 scoliosis patients. Statistical analyses were conducted using Mann-Whitney U, Pearson's chi-square, Fisher's exact chi-square, and Spearman's correlation tests with IBM SPSS Statistics 22.0.

Results: In UCH patients with a Cobb angle $\geq 10^\circ$, an inverse relationship was found between the Cobb angle direction and mandibular deviation ($p=0.025$). When the Cobb angle was directed to the right, mandibular deviation was to the left. Fractal values in the UCH group showed significant differences based on the side of involvement ($p<0.001$), while no such differences were observed in the scoliosis group ($p>0.05$). UCH patients exhibited greater deviation than scoliosis patients ($p<0.001$). No significant relationship was found between the Cobb angle and deviation when both groups were analyzed together ($p>0.05$).

Conclusion: Mandibular asymmetry was observed in 98.4% of scoliosis patients, and 70.0% of UCH patients were diagnosed with scoliosis. The inverse relationship between menton deviation and the Cobb angle suggests that scoliosis may trigger UCH. Further studies are needed to explore the biomechanical interactions between craniofacial and spinal asymmetries.

Key words: Condylar hyperplasia, scoliosis, mandibular asymmetry, fractal analysis, Cobb Angle

OP-9

Evaluation of Mandibular Condyle Morphology in Diabetic Individuals Using Radiomics

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Introduction: The aim of this study is to evaluate and compare the mandibular condyle morphology in individuals diagnosed with type 2 diabetes mellitus and healthy individuals using radiomics analysis based on cone-beam computed tomography (CBCT) data.

Method: CBCT images of diabetic and healthy individuals were retrospectively analyzed. Mandibular condyles were segmented using 3D Slicer software version 5,7, and radiomic features were extracted using the SlicerRadiomics extension. A total of 15 radiomic parameters were analyzed, including shape-based features (Sphericity, Surface Area), first-order statistical features (Mean, Entropy, Kurtosis), and texture-based features (Contrast, Correlation, Short Run Emphasis, Small Area Emphasis). Statistical comparisons between diabetic and control groups were performed using independent samples t-test and Mann-Whitney U test. The significance level was set at 0,05.

Results: Among the evaluated parameters, six features showed statistically significant differences between diabetic and healthy individuals: Sphericity, gray-level co-occurrence matrix (GLCM)-contrast, GLCM-correlation, gray-level run length matrix (GLRLM)-short run emphasis, GLRLM-long run emphasis and GLSZM-small area emphasis ($p<0.05$). The lower sphericity values in diabetic individuals indicate that the condyle is less spherical and has a morphologically altered shape. Differences in texture-based parameters suggest increased image heterogeneity and disruption of micro-architectural organization in the diabetic group, indicating possible subclinical degenerative or remodeling changes.

Conclusion: The findings of this study demonstrate that diabetes mellitus is associated with both morphological and microstructural alterations in the mandibular condyle. Radiomic analysis provides a sensitive and non-invasive approach to detect subtle changes that may not be visible in conventional imaging. These results underscore the potential of radiomics as a diagnostic adjunct in assessing temporomandibular joint involvement in systemic diseases. Future studies with larger cohorts and longitudinal follow-up are warranted to confirm the clinical implications of these findings.

Key words: Radiomics, mandibular condyle, cone-beam computed tomography (CBCT), diabetes mellitus, bone micromorphology

OP-10

Determination of Attitudes of Preclinical and Clinical Dental Students Towards Individuals with Special Needs

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Introduction: Individuals with special needs may not be able to adequately protect their oral and dental health due to physical, cognitive, and behavioral limitations. The lack of experience among healthcare professionals may complicate the treatment processes for these individuals. The aim of this study is to evaluate the attitudes of dental students towards individuals with special needs.

Method: A total of 172 students, both preclinical and clinical, participated in this cross-sectional study. The sample size was determined using G*Power, and analyses were performed using IBM SPSS Statistics. At least 86 participants were included in each group. Data were collected using a questionnaire created through a literature review. Chi-square (Fisher's exact test) was used to assess the relationships between variables, with a statistical significance level of $p < 0.05$.

Results: The attitudes of students towards individuals with special needs varied according to factors such as gender, academic year, the presence of an individual with special needs in the family, and clinical experience. In terms of gender, male students exhibited higher rates of avoidance ($p=0.024$), feeling unsafe ($p=0.009$), and difficulty in understanding ($p=0.045$). Female students, on the other hand, tended to have more positive interactions with individuals with special needs. Regarding academic year, students in higher grades exhibited more positive attitudes towards individuals with special needs ($p=0.001$). Especially, preclinical students had higher levels of discomfort ($p=0.007$) and fear ($p=0.001$). The presence of an individual with special needs in the family positively influenced the students' attitudes. Students who had a family member with special needs showed lower avoidance ($p=0.003$) and higher empathy levels. Regarding clinical experience, students who had worked with individuals with special needs during their internships gave more positive responses to accepting individuals with special needs in their social environment ($p=0.033$).

Conclusion: The attitudes of dental students towards individuals with special needs were shaped by experiences gained during their education, personal history, and individual factors. Students in higher grades and those who had direct contact with individuals with special needs demonstrated more positive attitudes. Increasing clinical experience may contribute to developing more positive attitudes towards individuals with special needs among students.

Key words: Dental students, individuals with special needs, oral health

OP-11

Evaluation of the Effectiveness of Botulinum Toxin and Marjoram Oil Applications in Sleep Bruxism

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Introduction: Bruxism is a parafunctional habit characterized by involuntary teeth clenching or grinding, which can lead to damage in the jaw muscles and dental structures. Sleep bruxism refers to these activities occurring during sleep. This study aimed to evaluate the effectiveness of botulinum toxin and marjoram oil applications in individuals with sleep bruxism.

Method: A total of 30 patients were included in the study. Participants were randomly divided into two groups: botulinum toxin and aromatherapy (marjoram oil). In the Botox group, a total of 40 units of botulinum toxin (Allergan, Ireland) was injected into each masseter muscle. In the aromatherapy group, 10% marjoram oil was applied with manual massage. Assessments were performed bilaterally using ultrasonography at baseline (T0), 1 month (T1), and 3 months (T2) post-treatment. Masseter muscle thickness and stiffness were evaluated. Statistical analyses were conducted using SPSS 26.0, and the significance level was set at 0.05.

Results: In the aromatherapy group, no statistically significant differences were observed in either the right or left masseter muscle between T0-T1, T0-T2, or T1-T2 ($p>0.05$). In the Botox group, a statistically significant difference was found between T0-T1 and T0-T2 ($p<0.05$), but not between T1-T2. No significant differences were found between the two groups at any time point regarding muscle thickness or elastographic values.

Conclusion: Botulinum toxin resulted in a significant reduction in masseter muscle thickness in the treatment of sleep bruxism, whereas marjoram oil application showed no statistically significant effect. These findings suggest that botulinum toxin may be a more effective treatment option for sleep bruxism.

Key words: Sleep bruxism, botulinum toxin, marjoram oil, elastography, masseter muscle

OP-12

Assessment of Buccal Corridor Width and Symmetry on Smile Aesthetics

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Introduction: This study aimed to compare the aesthetic evaluations of buccal corridor widths modified symmetrically and asymmetrically (1%, 5%, 10%, 15%, 20%) by orthodontists, prosthodontists, dentists, and laypersons in patients with high-angle and low-angle skeletal patterns.

Method: The study was approved by the Non-Interventional Research Ethics Committee, Bezmialem Vakıf University (2024/232). Two female patients aged 18-25 with high-angle and low-angle skeletal patterns, no missing teeth, and completed orthodontic treatment history were selected from the patient archive of the Department of Orthodontics, Bezmialem Vakıf University. The minimum sample size for each group was calculated as 54 using power analysis. Frontal smiling photographs were taken after obtaining informed voluntary consent from the patients. The buccal corridors were modified symmetrically and asymmetrically using Procreate and Adobe editing software. The images were randomized using randomizer.org and presented to 247 participants via Google Forms. A Visual Analog Scale was used to evaluate the aesthetics of each photograph. Statistical analysis was conducted using SPSS, with Pearson's chi-square and Kruskal-Wallis tests.

Results: Chi-square tests for gender and age revealed significant differences between all groups ($p < 0.05$). In the low-angle patient group, significant differences between professions were observed in both asymmetric (1-5%, 1-10%, 1-20%, 5-15%, 10-20%) and symmetric (10-10%, 15-15%, 20-20%) modifications. In the high-angle group, significant differences were observed between professions for asymmetric (1-15%, 1-20%, 15-20%) and symmetric modifications (10-10%, 20-20%) ($p < 0.05$). While significant differences were found in pairwise comparisons between professions in low-angle patients ($p < 0.05$), no differences were observed between orthodontists and prosthodontists ($p > 0.05$). Statistically significant differences were reported between dentists, prosthodontists, orthodontists, and laypersons for high-angle patients ($p < 0.05$).

Conclusion: Buccal corridor width and symmetry significantly affect aesthetic perceptions, with preferences varying by skeletal structure and professional background.

Key words: Buccal corridor, orthodontics, prosthodontics

OP-13

Determination of Mylohyoid Canal Frequency and Related Complications

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Introduction: The aim of this retrospective study is to determine the prevalence and anatomical variations of the mylohyoid canal located in the mandible using cone-beam computed tomography (CBCT) imaging, and to evaluate the potential surgical complications associated with this canal.

Method: The CBCT scans of 1,800 patients who presented to the Department of Oral and Maxillofacial Surgery at Bezmialem Vakıf University between February 2023 and February 2024 and underwent mandibular CBCT imaging were retrospectively examined. Patients with a detected mylohyoid canal were administered a questionnaire, and the data were analyzed statistically. Postoperative quality of life was assessed using the OHIP-14 questionnaire.

Results: The mylohyoid canal was present in 55% of the patients examined, while 36% showed no presence of the canal. There was no statistically significant difference between the presence of the mylohyoid canal and intraoperative pain (mean: 2.65 vs 2.62; $p=0.95$), postoperative pain (mean: 3.40 vs 2.45; $p=0.21$), repetition of anesthesia ($n=12$ vs $n=8$; $p=0.89$), or numbness ($n=1$ vs $n=0$; $p=0.35$).

Conclusion: The mylohyoid canal is a common anatomical structure that should be taken into consideration during posterior mandibular surgeries. However, its presence does not significantly affect postoperative complications or patients' quality of life. Nevertheless, preoperative identification of the canal using high-resolution imaging methods such as CBCT may enhance intraoperative comfort during surgical procedures.

Key words: Mandible, mylohyoid canal, cone-beam computed tomography, prevalence, anatomical variation, surgical complication

OP-14

Comparison of Conventional Graft and Gingival Unit Graft Applications in Terms of Color in Cairo Type 2 and Type 3 Localized Gingival Recessions

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Introduction: This study aims to evaluate the differences in color harmony between conventional graft (CG) and gingival unit graft (GUG) applications in Cairo Type 2 and Type 3 localized gingival recessions over an 18-month follow-up period after SDG surgery.

Method: This retrospective clinical study includes 40 patients who underwent surgery at Bezmialem Vakıf University Faculty of Dentistry Local Operating Room between 2022 and 2023. Patients were divided into two groups: the control group (CG) and the test group (GUG). Color differences in the keratinized gingiva area were evaluated using digital imaging. Photographs were taken under standardized lighting and camera conditions using a Nikon camera, and color analyses were performed using Adobe Photoshop software (CS6, 64 Bit). Color changes were measured using CIE (LAB) and LUT (RGB) color indices.

Results: In both the control and intervention groups, significant increases were observed in the L, a, b, and ΔE values during the operation ($p < 0.001$). In the postoperative period, these parameters showed a significant decrease ($p < 0.001$), returning to baseline levels ($p > 0.05$). While time-dependent changes within each group were statistically significant, there were no statistically significant differences between the groups at any time point ($p > 0.05$).

Conclusion: The findings of this study indicate that the applied intervention led to short-term changes in tooth color, but this effect was not sustained in the long term. The absence of significant differences between the intervention and control groups suggests that the intervention did not offer a clear advantage over the control condition.

Key words: Cairo type 2, cairo type 3, conventional graft, gingival unit graft, color change, keratinized gingiva, CIE (LAB), LUT (RGB)

OP-15

Evaluation of the Long-Term Success of Restorations Performed by Undergraduate Students in the Pediatric Dentistry Clinic of the Faculty of Dentistry

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Introduction: The aim of this study is to evaluate the long-term clinical success of posterior restorations performed by undergraduate students in the Department of Pediatric Dentistry at Bezmialem Vakıf University Faculty of Dentistry.

Method: Clinical and radiographic examinations were conducted on 100 teeth from patients aged between 6 and 13 years, previously treated by undergraduate students. The findings of the restorations were assessed according to the modified USPHS-Ryge criteria and FDI (World Dental Federation)/Hickel criteria (aesthetic, functional, and biological). Factors such as tooth type (primary/permanent) and restoration type (single-surface/two-surface) were evaluated for their effect on the restoration success. The restorations were divided into four groups based on follow-up: 3-6 months, 6-12 months, 12-24 months, >24 months. The collected data were analyzed using the chi-square test to evaluate the relationships between restoration type and tooth type, with a significance level set at $p < 0.05$.

Results: A total of 100 teeth were examined (44 permanent, 56 primary). Of the restorations, 40 were single-surface and 60 were two-surface restorations. Only two restorations showed loss of retention. In the follow-up period of over 24 months, a significant increase in secondary caries was observed ($p = 0.004$), and a notable failure was detected in radiographic evaluations ($p = 0.042$). Overall, no significant difference was found between restoration type and tooth type with regard to success.

Conclusion: Restorations performed during the 3-6, 6-12, and 12-24 month follow-up periods were largely successful and acceptable. However, in the >24 months follow-up group, biological, radiographic, and aesthetic failures increased. These findings suggest that restorations performed by undergraduate students are effective in the short and medium term, but the success decreases in the long term.

Key words: Composite filling, direct restoration, pediatric dentistry