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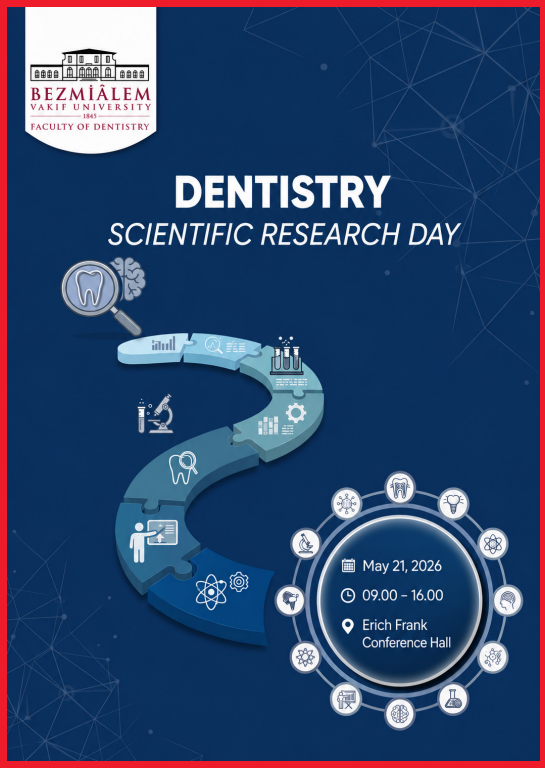

DENTISTRY STUDENTS' RESEARCH DAY

21 MAY 2026

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34093 İstanbul, Türkiye
Phone: +90 (530) 177 30 97
E-mail: info@galenos.com.tr/yayin@galenos.com.tr

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Assoc. Prof. Bahadır TAŞLIDERE
Bezmialem Vakıf University Faculty of Medicine, Department of Emergency Medicine, İstanbul, Türkiye
E-mail: btaslidere@bezmialem.edu.tr

Assoc. Prof. Burcu OĞLAKÇI ÖZKOÇ
Bezmialem Vakıf University Faculty of Dentistry, Department of Restorative Dental Treatment, İstanbul, Türkiye
E-mail: burcu923@hotmail.com

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Bezmialem Vakıf University Faculty of Pharmacy, Department of Pharmaceutical Botany, İstanbul, Türkiye
E-mail: c.kizilarslan@gmail.com

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İstanbul-Cerrahpaşa University Faculty of Medicine, Department of Biophysics, İstanbul, Türkiye
E-mail: ebru.aldogan@iuc.edu.tr

Prof. Dr. Fahri AKBAŞ
Bezmialem Vakıf University Faculty of Medicine, Department of Medical Biology, İstanbul, Türkiye
E-mail: fakbas@bezmialem.edu.tr

Fatma Betül AKÇAKAYA ÖZER, MD
Republic of Türkiye Ministry of Health, Kağıthane District Health Directorate, İstanbul, Türkiye
E-mail: betulakcakaya@hotmail.com

Assoc. Prof. Mehmet Ali GÜLTEKİN
Bezmialem Vakıf University Faculty of Medicine, Department of Radiology, İstanbul, Türkiye
E-mail: mgultekin@bezmialem.edu.tr

Lect. Merve MEŞEDÜZÜ
Bezmialem Vakıf University Faculty of Health Sciences, Department of Nursing, İstanbul, Türkiye
E-mail: mmeseduzu@bezmialem.edu.tr

Assoc. Prof. Muhammed Batuhan AYIK
Bezmialem Vakıf University Faculty of Medicine, Department of Psychiatry, İstanbul, Türkiye
E-mail: batuhan.ayik@bezmialem.edu.tr

Prof. Dr. Muharrem KISKAÇ
Prof. Dr. Muharrem Kıskaç Private Clinic, Department of Internal Medicine, İstanbul, Türkiye
E-mail: muharremkiskac@gmail.com

Prof. Dr. Özlem SU KÜÇÜK
Bezmialem Vakıf University Faculty of Medicine, Department of Dermatology, İstanbul, Türkiye
E-mail: ozlemsukucuk2@yahoo.com.tr

Assoc. Prof. Semiramis ÖZYILMAZ
Bezmialem Vakıf University Faculty of Medicine, Department of Physiotherapy and Rehabilitation, İstanbul, Türkiye
E-mail: sozyilmaz@bezmialem.edu.tr

Prof. Dr. Yeter DEMİR USLU
İstanbul Medipol University Faculty of Health Sciences, Department of Health Management, İstanbul, Türkiye
E-mail: yuslu@medipol.edu.tr

Assoc. Prof. Ozan Volkan YURDAKUL
Bezmialem Vakıf University Faculty of Medicine, Department of Physical Medicine and Rehabilitation, İstanbul, Türkiye
E-mail: oyurdakul@bezmialem.edu.tr

Biostatistics Consultant

Asst. Prof. Ömer UYSAL
Bezmialem Vakıf University Faculty of Medicine, Department of Biostatistics and Medical Informatics, Division of Basic Medical Sciences, İstanbul, Türkiye
E-mail: omer.uysal@iuc.edu.tr
ORCID ID: https://orcid.org/0000-0002-8833-697X

Assoc. Prof. Ayşegül YABACI TAK
Bezmialem Vakıf University Faculty of Medicine, Department of Biostatistics and Medical Informatics, İstanbul, Türkiye
E-mail: ayabaci@bezmialem.edu.tr
ORCID ID: https://orcid.org/0000-0002-5813-3397

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21 MAY 2026

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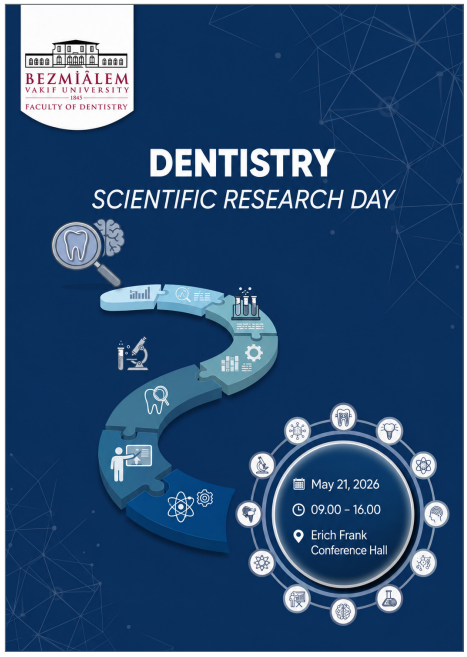
Evrim DALKILIÇ

Bezmialem Vakıf University Faculty of Dentistry,
Department of Restorative Dentistry



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PREFACE

Bezmialem Vakıf University Faculty of Dentistry trains primary care dentists who possess up-to-date knowledge and are interested in research and lifelong learning. Due to its quality approach to education and continuous development, it became one of the first faculties to be accredited in the field of Dentistry in 2010. The vision, mission, general objectives, and goals of the faculty include training students who are scientifically oriented, committed to ethical and academic values, closely follow developments and innovations in the scientific field, and can perform evidence-based practices. In order to achieve these goals, an educational corridor was created in the 2022-2023 academic year, and within this framework, Evidence-Based Dentistry was added to the 3rd grade curriculum, and Scientific Research in Dentistry I, Scientific Research in Dentistry II were added to the 4th and 5th grade curricula. In the Evidence-Based Dentistry, topics such as critical article reading, types of articles, and statistical concepts are covered. In the following courses, Scientific Research in Dentistry I and II, students have the opportunity to apply the knowledge they have learned theoretically. The course consists of a total of 5 modules. At the beginning of the modules, training sessions focused on the research phase are provided, and afterwards, each student briefly presents their work to the scientific committee and their peers, receiving scores according to the module's criteria. Students complete their research by being able to ask a research question, develop a hypothesis, create materials and methods, write ethics and scientific research projects when necessary, and interpret statistics from the first module onwards. At the end of the fifth module, students present their work either orally or as a poster at the "Scientific Research Day" event. We are proud to have successfully completed this 2-year course and to have had each of our students complete a research project. First of all, we would like to thank the esteemed faculty members who made this course possible, our students who will become the scientists of the future, and Prof. Dr. Semra ÖZÇELİK and our rector Prof. Dr. Adem AKÇAKAYA for their support in conducting this course.

Prof. Dr. Evrim DALKILIÇ

Bezmialem Vakıf University Faculty of Dentistry

Department of Restorative Dentistry

RESEARCH DAY

21 MAY 2026

FIRST SESSION

08.30 - 09.00: Introduction

09.00 - 09.50: Oral Presentations

09.50 - 10.00: Coffee Break

SECOND SESSION

10.00 - 10.50: Oral Presentations

10.50 - 11.00: Coffee Break

THIRD SESSION

11.30 - 12.35: Short Oral Presentations

Auditoriums 101 - 102 - 103

11.30 - 12.10: Poster Presentations

Erich Frank Conference Hall

CLOSING

13.00 - 14.00: Lunch Break

14.00 - 14.20: Music Performance

14.30 - 15.00: Awards Ceremony

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DENTISTRY STUDENTS' RESEARCH DAY
21 MAY 2026

ORAL PRESENTATIONS

OP-1

Evaluation of the Effect of Different Light Values and Dentistry Education on Tooth Color Selection

Erva MEYDAN[1], F. Şehnaz KAZOKOĞLU[2], Ali TOPRAK[3]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Prosthodontic, İstanbul, Türkiye

[3]Bezmialem Vakıf University Faculty of Medicine, Department of Biostatistics and Medical Informatics, İstanbul, Türkiye

Introduction: Tooth color selection is a fundamental determinant of aesthetic success in prosthetic treatments. This process can be performed via digital systems or visual assessment. Despite the technical superiority of digital systems, visual methods remain the primary choice in clinical practice. However, this method is a subjective process influenced by factors such as ambient lighting, color temperature, and clinical experience. The aim of this study is to evaluate the impact of different color temperatures (5000K and 6500K) and dental education levels on the accuracy of tooth shade selection.

Methods: The study was conducted at Bezmialem Vakıf University Faculty of Dentistry, involving 214 dental students (107 preclinical and 107 clinical). The Ishihara test was administered to exclude individuals with color vision deficiencies. Participants were asked to match shades A2, A4, C2, and C4 from the Vita Classical shade guide under high color rendering index fluorescent illumination at color temperatures of 5000K and 6500K using a Prowhite light booth. Data were analyzed using the generalized estimating equations method.

Results: Shade-matching accuracy demonstrated significant differences regarding education level ($p=0.019$), light temperature ($p=0.022$) and specific shade ($p<0.001$). Clinical students exhibited higher accuracy rates compared to preclinical students. Higher accuracy was observed under 6500K light temperature. Significant variations were found between shades; specifically, A2 and C2 yielded lower accuracy rates. Significant interaction was not detected between education level and light temperature ($p=0.122$).

Conclusion: The accuracy of tooth shade selection is significantly influenced by education level and light temperature. Clinical students demonstrated superior accuracy. The 6500K light temperature was associated with higher precision. Accuracy was found to be lower for middle tones (A2, C2) and higher for darker tones (A4, C4). While optimized light temperature enhances accuracy, challenges in distinguishing certain shades persist.

Keywords: Shade selection, color temperature, dental education, clinical experience, Vita Classic

OP-2

Comparison of the Effects of Different Retention Protocols on Orthodontic Stability

Zeynep Ece ÖZDEMİR[1], Gökmen KURT[2], Şerife ŞAHİN[2], İrem Öykü ÇELİKER[2], Beril KAPLAN[3], Ayşegül YABACI TAK[4]

[1]*Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye*
[2]*Bezmialem Vakıf University Faculty of Dentistry, Department of Orthodontics, İstanbul, Türkiye*
[3]*Bezmialem Vakıf University Institute of Health Sciences, Department of Orthodontics, İstanbul, Türkiye*
[4]*Bezmialem Vakıf University Faculty of Medicine, Department of Biostatistics and Medical Informatics, İstanbul, Türkiye*

Introduction: Maintaining the long-term stability of tooth alignment after orthodontic treatment is essential for treatment success. Fixed lingual retainers are commonly used for retention, particularly because relapse frequently occurs in the mandibular anterior region. Various retainer materials with different mechanical properties are currently used in clinical practice, and evaluating their effectiveness in preserving mandibular stability and maintaining lower incisor alignment is important. This study aimed to compare the effects of two different lingual retainer materials used after orthodontic treatment on orthodontic stability.

Methods: This study included individuals who completed orthodontic treatment and received a fixed lingual retainer between the mandibular canines. Participants were divided into two groups according to the retainer material used: DeadWire (n=14) and PentaOne (n=17). A control group (n=20) consisting of individuals who had not undergone orthodontic treatment was also included. Dental impressions were obtained at the end of treatment (T0) and at the 6-month retention period (T1) to create dental models. The models were digitized and analyzed using CloudCompare software. T0 and T1 models were superimposed in the mandibular intercanine region, and mean surface distance values were calculated. The data were analyzed using appropriate statistical methods.

Results: A total of 51 individuals were included. The Kruskal-Wallis test showed no statistically significant difference in mean distance values among the control, PentaOne, and DeadWire groups (H=3.689, p=0.158). Median values were 0.0158, 0.0306, and 0.0237, respectively.

Conclusion: DeadWire and PentaOne lingual retainers demonstrated similar retention performance. Both materials appear to be reliable options for maintaining orthodontic stability.

Keywords: Orthodontic retention, fixed lingual retainer, mandibular incisor irregularity, DeadWire, PentaOne

OP-3

Effect of Additional Silane Application on the Shear Bond Strength of CAD/CAM Block Repairs

Halil İbrahim KARAKOÇ[1], Evrim DALKILIÇ[2], Sultan CEYLAN AYDIN[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Restorative Dentistry, İstanbul, Türkiye

Introduction: Intraoral repair of fractured computer-aided design (CAD)/computer-aided manufacturing (CAM) restorations is highly valuable for clinical success. Silane used during repair aims to strengthen the bond by establishing a chemical bridge between the porcelain and the restorative material. This study aims to investigate the effects of two different adhesive systems and additional silane application on bond strength, and their interaction.

Methods: Standard 2 mm-thick sections obtained from Dentsply Sirona CEREC blocks were embedded in acrylic resin and subjected to standard surface roughening. Specimens were randomly divided into 4 groups (n=12): GC/S, GC, Kulzer/S, and Kulzer. Adhesive and repair composite-applied specimens underwent thermocycling (10,000 cycles) to simulate intraoral temperature changes. Subsequently, shear bond strength was measured in MPa using a universal testing machine at a crosshead speed of 0.5 mm/min. Data were statistically analyzed using two-way analysis of variance and Tukey HSD tests (α=0.05).

Results: Additional silane application significantly increased bond strength regardless of the adhesive brand used ($p<0.05$). Although the GC adhesive system generally yielded higher values than Kulzer, the difference was not significant ($p>0.05$).

Conclusion: Findings indicate that additional silane application is the most fundamental parameter determining bond strength in CAD/CAM block repair, independent of the adhesive system used.

Keywords: CAD/CAM, repair, silane, shear bond strength, adhesive systems

OP-4

The Effects of Different Finishing Techniques Applied During the Placement of Clear Aligner Attachments on Enamel Discoloration

Ece MERT[1], Sultan CEYLAN AYDIN[2], Banu KILIÇ[3], Evrim DALKILIÇ[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Restorative, İstanbul, Türkiye

[3]Bezmialem Vakıf University Faculty of Dentistry, Department of Orthodontics, İstanbul, Türkiye

Introduction: In clear aligner therapy, composite attachments are bonded to tooth surfaces, and various finishing and polishing procedures are applied around these attachments to remove residual material. This study aimed to evaluate the effects of different finishing and polishing techniques applied around composite attachments on enamel discoloration during clear aligner treatment.

Methods: In this *in vitro* experimental study, 60 caries-free human premolar teeth were used. A universal adhesive (G-Premio Bond) was applied to the middle third of the buccal surfaces using the etch-and-rinse technique. Composite attachments were placed and polymerized using an LED light-curing unit. Based on the finishing procedures applied to residual composite, the teeth were randomly divided into three groups (n=20): Group T, tungsten carbide bur; Group T/P, tungsten carbide bur followed by polishing discs (Sof-Lex); and Group C (control), no finishing or polishing. Each group was further divided into two subgroups (n=10) according to storage medium: coffee solution or distilled water. Specimens were stored at 37 °C for 7 days. Color measurements were performed at baseline (T0) and after storage (T1) using a spectrophotometer (Vita Easyshade Advance). Data were analyzed using two-way analysis of variance and Bonferroni tests.

Results: Color change significantly increased in all groups after storage in coffee ($p<0.001$). No significant differences were found among groups stored in distilled water ($p>0.001$). After coffee storage, Group T/P showed significantly lower discoloration compared to Group T and Group C ($p<0.001$). The highest color change was observed in Group C.

Conclusion: Finishing and polishing procedures after composite attachment placement significantly influence enamel discoloration, particularly after coffee exposure. Polishing following tungsten carbide bur use reduces staining around attachments.

Keywords: Clear aligner, attachment, enamel discoloration, finishing, polishing, ΔE, spectrophotometry

OP-5

Evaluation of Stress Distribution of Pediatric Zirconium Crowns Applied with Different Cements in Primary Anterior Teeth by Finite Element Analysis

Muhammet Emin YILDIZ[1], Şerife ÖZDEMİR[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Pedodontics, İstanbul, Türkiye

Introduction: Zirconium crowns are widely used in pediatric dentistry for the restoration of severely decayed primary anterior teeth due to their aesthetic and mechanical properties. The cementation is crucial for the long-term clinical success of these restorations. This study aimed to evaluate the effect of different cement types on stress distribution in zirconium crowns applied to primary anterior teeth using three-dimensional finite element analysis.

Methods: A three-dimensional finite element model of a primary maxillary central incisor restored with a zirconium crown was created. Different cement materials (resin and glass ionomer) were simulated with a specific standard cement thickness. Vertical and angulated static forces were applied to the palatal surface of the crown. To compare the biomechanical behaviors of different cement types, stress values on the tooth, cement, and surrounding bone tissues were calculated.

Results: According to the analysis results, the use of resin cement reduced the stresses generated at the tooth-cement and tooth-bone interfaces under both vertical and angulated force applications. In contrast, when the stresses generated in the supporting bone structure attached to the tooth were examined, it was determined that the use of glass ionomer cement produced lower stress values.

Conclusion: According to the findings of this analysis, cement selection directly affects stress distribution in primary anterior tooth zirconium crown restorations. While resin cements provide a more favorable biomechanical profile to protect the tooth-cement interface and reduce stress in this region, glass ionomer cements offer advantages when the goal is to minimize the load transmitted to the supporting bone tissue. Case-specific clinical requirements should be the determining factor in the choice of cement material.

Keywords: Finite element analysis, primary teeth, zirconium crown, dental cements, stress distribution

OP-6

Clinical Evaluation of Posterior Primary Tooth Restorations Under General Anesthesia: 6-30 Month Follow-up

Sudenur KARA[1], Meltem BAKKAL[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Pediatric Dentistry, İstanbul, Türkiye

Introduction: Primary tooth restorations occupy an important place in pediatric dentistry. Dental treatment under general anesthesia (GA) is frequently employed for uncooperative pediatric patients. This study aimed to comparatively evaluate the clinical success of composite resin and stainless steel crown (SSC) restorations applied to posterior teeth under GA with regard to tooth group, material type, and follow-up duration.

Methods: In this retrospective study, 210 restorations—composite resin (n=43) and SSC (n=167)—placed on posterior primary teeth under GA in 43 patients (aged 36-72 months) were followed for 6-30 months. Restorations were assessed for color match, surface integrity, anatomic form, retention, marginal adaptation, and secondary caries. Teeth were classified as first and second primary molars; follow-up periods as 0-10, 11-20, and 21-30 months. Chi-square and Fisher's exact tests were used ($p<0.05$).

Results: No statistically significant difference was found between groups in terms of tooth group and follow-up duration ($p>0.05$). In the material comparison, SSC demonstrated statistically significant superiority over composite resin in color match (100.0%, n=167 vs. 72.1%, n=31; $p<0.001$), surface integrity (100.0%, n=167 vs. 83.7%, n=36; $p<0.001$), and secondary caries (100.0%, n=167 vs. 90.7%, n=39; $p<0.001$) criteria. All restorations showed 100% success in anatomic form. No significant difference was found between materials in terms of retention and marginal adaptation ($p>0.05$).

Conclusion: SSCs demonstrated statistically significant clinical superiority over composite resin in color match, surface integrity, and secondary caries resistance at longer follow-up periods. Tooth group and follow-up duration did not significantly affect overall success. These findings may guide clinicians in material selection.

Keywords: General anesthesia, primary tooth restoration, composite resin, stainless steel crown, clinical evaluation, pediatric dentistry

OP-7

Translation and Validation of the Turkish Version of the Psychosocial Impact of Gingival Aesthetics Questionnaire: A Scale Adaptation Study

Selin ÖZAY[1], Cansu Can YAŞAR[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye
[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Periodontology, İstanbul, Türkiye

Introduction: Gingival aesthetics can significantly influence individuals' self-perception, self-confidence, and social interactions. The Psychosocial Impact of Gingival Aesthetics Questionnaire (PIGAQ) was developed to assess the psychosocial effects of gingival aesthetics. The aim of this study was to translate the PIGAQ into Turkish, perform a cross-cultural adaptation, and evaluate its validity and reliability.

Methods: This methodological study included 230 volunteers aged 18-80 years presenting to the Department of Periodontology at Bezmialem Vakıf University Faculty of Dentistry. The PIGAQ was translated into Turkish and culturally adapted using a forward-backward translation procedure, expert panel review, and pilot testing. Construct validity was assessed using exploratory factor analysis. Internal consistency was evaluated using Cronbach's alpha coefficients and item-total correlations. Test-retest reliability was assessed in 30 participants who completed the questionnaire again after 4 weeks, and intraclass correlation coefficients (ICC) were calculated.

Results: The Kaiser-Meyer-Olkin value was 0.926 and Bartlett's test of sphericity was statistically significant (χ^2=5305.973, $p<0.001$). Exploratory factor analysis revealed four factors with eigenvalues greater than 1, explaining 77.7% of the total variance. Factor loadings ranged between 0.423 and 0.916. The overall Cronbach's alpha coefficient of the scale was 0.948, while the subscale values ranged from 0.915 to 0.957. Item-total correlations ranged between 0.282 and 0.835. Test-retest reliability demonstrated excellent stability with an ICC of 0.980.

Conclusion: The Turkish version of the PIGAQ is a valid and reliable instrument for assessing the psychosocial impact of gingival aesthetics in the Turkish population.

Keywords: Gingival aesthetics, psychosocial impact, questionnaire validation, scale adaptation, periodontology

OP-8

Evaluation of Odontogenic Cysts Using A Cone Beam Computed Tomography-based Radiomic Approach

Ata Mert DEMİR[1], Elifhan ALAGÖZ[2], Ayşegül YABANCI TAK[3], Doğan DOLANMAZ[4]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye
[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Oral and Maxillofacial Radiology, İstanbul, Türkiye
[3]Bezmialem Vakıf University Faculty of Medicine, Department of Biostatistics and Medical Informatics, İstanbul, Türkiye
[4]Bezmialem Vakıf University Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, İstanbul, Türkiye

Introduction: Odontogenic cysts are epithelium-lined pathological cavities surrounded by fibrous connective tissue, originating from odontogenic tissues in the tooth-bearing regions of the maxilla and mandible. Radiomics quantifies textural information in digital diagnostic images through the mathematical extraction of signal intensity distributions and pixel/voxel relationships imperceptible to the human eye. This study aims to evaluate cone-beam computed tomography (CBCT) images of patients histopathologically diagnosed with residual cysts, odontogenic keratocysts, and dentigerous cysts using a radiomics approach to predict diagnosis without histopathological data.

Methods: This retrospective study utilized CBCT images of 75 histopathologically confirmed lesions (25 residual cysts, 25 odontogenic keratocysts, 25 dentigerous cysts) from patients presenting between January 2017 and September 2024. Images meeting the inclusion criteria were manually segmented using the freehand (polygon) method in 3D Slicer (v5.10.0) software. Following segmentation, radiomic analysis extracted 107 features, exported in CSV format. The data acquired were analyzed utilizing machine learning algorithms within the R statistical programming environment.

Results: According to the analysis, the most powerful features for differentiating the groups showed substantial concordance between univariate statistical analysis and the multinomial elastic net model. The top ten radiomic variables remaining significant after false discovery rate correction and frequently selected by the model are: shape_Sphericity, firstorder_Minimum, shape_Flatness, shape_Elongation, glszm_GrayLevelNonUniformityNormalized, glrlm_GrayLevelNonUniformityNormalized, firstorder_Uniformity, glcm_Imc2, gldm_LargeDependenceLowGrayLevelEmphasis, and firstorder_Range. The prominence of shape-based markers proves that morphological differences between groups are determinative, whereas texture-based features indicate that intralesional heterogeneity plays a critical role in differentiation.

Conclusion: The findings demonstrate that these radiomic variables support the histopathological diagnosis of odontogenic lesions. Integrated with machine learning, this method has the potential to strengthen preoperative preliminary diagnosis, providing an essential guideline in the differentiation of cysts.

Keywords: Radiomics, CBCT, residual cyst, odontogenic keratocyst, dentigerous cyst

OP-9

Retrospective Evaluation of Canalis Sinuosus Prevalence in the Maxillary Anterior Region Using Cone Beam Computed Tomography

Zeynep Rana USLU[1], Elifhan ALAGÖZ[2], Özge Serpil ÇAKIR[3], Doğan DOLANMAZ[3]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Oral and Maxillofacial Radiology, İstanbul, Türkiye

[3]Bezmialem Vakıf University Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, İstanbul, Türkiye

Introduction: The canalis sinuosus (CS) is a small neurovascular canal branching from the infraorbital canal, carrying the anterior superior alveolar nerve and associated vessels. It follows a curved course in the anterior maxilla and may show anatomical variations. This study aimed to determine the prevalence of CS using cone-beam computed tomography (CBCT), evaluate its clinical significance, assess its visibility on panoramic radiographs, and compare the diagnostic performance of these imaging modalities.

Methods: In this retrospective study, 1,550 CBCT images obtained between January 2023 and January 2025 were evaluated. A total of 570 patients were excluded due to pathology, previous surgery, insufficient field-of-view, or imaging artifacts, leaving 980 patients. The presence of CS was assessed on CBCT images, and panoramic radiographs of CS-positive cases were analyzed for visibility. All images were first evaluated by a student observer, and after one month, 20% of the dataset was re-evaluated blindly by an expert radiologist. Interobserver agreement was 77% for CBCT and 74% for panoramic radiography. Statistical analyses were performed using SPSS 28.0.

Results: CS was detected in 73.2% of CBCT images and 53.7% of panoramic radiographs. On CBCT, 14.6% of cases were unilateral and 58.6% bilateral, whereas panoramic radiographs showed 30.9% unilateral and 22.8% bilateral cases. A moderate agreement was found between the two methods ($\kappa=0.587$), with a statistically significant difference ($p<0.001$). No significant association was observed with gender ($p>0.05$). A significant increase in prevalence with age was found in CBCT ($p=0.039$), but not in panoramic imaging.

Conclusion: CS has a high prevalence, and CBCT is more reliable for its detection. Panoramic radiographs may be useful for preliminary evaluation, but CBCT is recommended for surgical and implant planning.

Keywords: Canalis sinuosus, CBCT, panoramic radiography

OP-10

Investigation of the Relationship Between Emotional Intelligence and Academic Success in Dental Students

Abdülkerim Esad SELVİ[1], Şerife ŞAHİN[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye
[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Orthodontics, İstanbul, Türkiye

Introduction: Emotional intelligence (EI) is a critical factor influencing professional development and academic resilience among dental students. The aim of this study is to investigate the relationship between EI levels and academic success [grade point averages (AGNO) and YKS rankings] among dental students studying at various universities in İstanbul.

Methods: This cross-sectional study was conducted with 518 dental students studying at 23 different universities in İstanbul during the 2025-2026 academic year. Participants' EI levels were measured using the 20-item Trait Emotional Intelligence Questionnaire-Short Form, developed by Petrides and adapted into Turkish by Işık, Özer, and Deniz. YKS rankings and AGNO were used as academic success criteria. Demographic data, hobby counts, and professional optimism levels were collected via an online structured questionnaire and analyzed statistically.

Results: No direct relationship was found between total EI scores and objective academic success criteria (AGNO and YKS); however, a positive relationship was detected between the emotionality sub-dimension and AGNO. Very strong positive relationships were found between EI, professional satisfaction, and self-perceived success. As the students' number of hobbies increased, all EI sub-dimensions rose significantly. Furthermore, while male students had higher total EI, well-being, and self-control scores, female students had higher AGNOs. It was observed that students who achieved top ranks in YKS were more anxious about the profession's future, and as the ranking worsened, professional optimism increased.

Conclusion: In dental education, EI is strongly related to professional satisfaction, self-perceived success, and individual hobbies rather than objective academic grades. The positive relationship between high university entrance success and future professional anxiety suggests that as the effort invested by students increases, they carry a greater concern about not being rewarded for this effort. Supporting students' emotional competencies and social areas alongside their cognitive skills is the key to multifaceted development.

Keywords: Academic success, dental education, dental students, emotional intelligence

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DENTISTRY STUDENTS' RESEARCH DAY
21 MAY 2026

SHORT ORAL PRESENTATIONS

SOP-1

Evaluation of the Effects of Two- and Three-implant-retained Overdentures in the Mandible on Patient Satisfaction and Quality of Life

Aysouda AZIZPOUR[1], Taha PERGEL[2], Emine Fulya AKKOYUN[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, İstanbul, Türkiye

Introduction: The aim of this study is to evaluate the effects of two- and three-implant-supported mandibular overdentures on oral health-related quality of life (OHRQoL) and general life satisfaction using the Oral Health Impact Profile-14 (OHIP-14) and Satisfaction with Life Scale (SWLS).

Methods: Sixty patients aged between 45 and 80, who were treated with mandibular implant-supported overdentures between 2020 and 2025, were included in the study. Participants were contacted via telephone and informed about the study. They were then administered the OHIP-14 and SWLS questionnaires to assess their OHRQoL and satisfaction levels. Descriptive statistical methods were used for data analysis.

Results: A total of 60 individuals participated in the study. In the evaluation performed with the OHIP-14 scale, item-based mean scores were generally found to be low, indicating a high level of OHRQoL among participants. The highest levels of dissatisfaction were observed in the categories of discomfort while eating [\bm{0.50 \pm 0.79}] and dietary restrictions [\bm{0.54 \pm 0.67}]. Conversely, social disability and inability to function [\bm{0.01 \pm 0.13}] yielded the lowest complaint scores. Standard deviation values indicated partial differences among individuals; however, the overall distribution was clustered around low scores. Analysis of the SWLS revealed that patients' general life satisfaction levels were high [\bm{2.52 \pm 0.93}].

Conclusion: This study demonstrates that implant-supported overdentures applied in cases of total mandibular edentulism positively influence patients' general life satisfaction. According to OHIP-14 data, patients suffer most from limitations in eating comfort and difficulties in dietary choices. Additionally, mild speech difficulties and subsequent temporary socio-psychological tensions observed in some patients are noteworthy factors during the prosthetic adaptation process. In conclusion, while the treatment enhances living standards, accurate management of patient expectations remains critical for maximizing functional success and psychosocial confidence.

Keywords: Dental implant, total edentulism, overdenture, OHIP-14, mandible, Satisfaction with Life Scale (SWLS)

SOP-2

Panoramic and Photo-based Interdisciplinary Approaches in Implant Planning: Different Perspectives According to Seniority Levels

Baran DEMİRKANOĞLU[1], Özge DOĞANAY ÖZYILMAZ[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, İstanbul, Türkiye

Introduction: Implant planning relies on accurate radiographic and clinical evaluation. Panoramic radiographs and clinical photographs are widely used; however, interpretation may vary depending on clinical experience and academic seniority. This study aimed to assess interdisciplinary differences in implant planning decisions based on panoramic and photo-based evaluations across different seniority levels.

Methods: A total of 109 participants, including assistants, specialists, and professors/associate professors, were enrolled. Participants evaluated implant cases using panoramic radiographs and clinical photographs and answered structured questions. Responses were compared across groups to determine differences in diagnostic interpretation and treatment planning. Statistical analyses were performed, and $p<0.05$ was considered statistically significant.

Results: A discrepancy was identified in the implant planning question with respect to both academic title and departmental affiliation. In contrast, no significant difference was observed based on academic title for the questions concerning the most critical factor considered during clinical examination in implant surgery and the adequacy of panoramic radiographs for implant planning; however, a statistically significant difference was noted between departments for these items. Assistant-level roles tend to be more heterogeneous and make mid-level decisions; specialists and assistant professors are more selective and make strong decisions on specific questions; associate professors and professors exhibit a profile characterized by more standardized and clear-cut decisions.

Conclusion: Implant planning decisions based on panoramic and photographic evaluation vary significantly according to seniority level. Increased clinical experience contributes to improved accuracy and consistency in decision-making. These findings emphasize the importance of experience and interdisciplinary perspective in optimizing implant treatment planning.

Keywords: Implant planning, panoramic radiography, clinical photography, seniority, interdisciplinary approach

SOP-3

Effect of Demineralization Solution on the Surface Roughness of a Microhybrid Composite Resin

Kevser KOVARAOĞLU[1],Ceren DEĞER[2]

[1]*Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye*

[2]*Bezmialem Vakıf University Faculty of Dentistry, Department of Restorative Dentistry, İstanbul, Türkiye*

Introduction: Composite resins are widely used in dentistry due to their favorable esthetic and mechanical properties. These materials may undergo changes in their surface characteristics when exposed to chemical and physical conditions in the oral environment. Surface roughness is a clinically important parameter affecting plaque accumulation, discoloration, and the long-term success of restorations. Therefore, evaluating the effects of demineralization processes on the surface integrity of restorative materials is essential. The aim of this study was to investigate the effect of a demineralization solution on the surface roughness of a microhybrid composite resin.

Methods: A total of 20 disc-shaped specimens were prepared from a microhybrid composite resin (Filtek Z250, 3M ESPE) using standardized molds. After polymerization, all specimens were stored in distilled water for 24 hours. Baseline surface roughness measurements were performed using a contact profilometer (Mahr, Marsurf PS1). The specimens were randomly divided into two groups (n=10): control (distilled water) and demineralization group (demineralization solution pH=4.8). Specimens were stored under standardized conditions for 30 days, after which surface roughness measurements were repeated. Data were analyzed using repeated measures analysis of variance with Bonferroni post hoc test ($p<0.05$).

Results: No statistically significant differences were found between the groups at baseline or after the experimental period ($p>0.05$). Within-group comparisons showed no significant change in the distilled water group ($p>0.05$), whereas a significant increase in surface roughness was observed in the demineralization group ($p<0.05$).

Conclusion: The demineralization solution significantly increased the surface roughness of the microhybrid composite resin, whereas distilled water did not cause a significant change. However, final surface roughness values in both groups exceeded the critical threshold of 0.2 µm for bacterial adhesion, suggesting a potential risk for plaque accumulation.

Keywords: Surface roughness, demineralization, resin composite

SOP-4

The Effect of Demineralization Solution on the Microhardness of Fluoride-releasing Composite Resin

Ali GÜLER[1], Ayşenur TUNÇ DİCLE[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Restorative Dentistry, İstanbul, Türkiye

Introduction: This study aimed to evaluate the changes in the surface microhardness of a fluoride-releasing restorative material under intraoral demineralization conditions.

Methods: A single-shade fluoride-releasing composite resin (Beautifil II, Shofu, Japan) was used in the study. A total of 20 disc-shaped resin specimens were prepared using Teflon molds (5x2 mm) (n=20) and polymerized using an LED light-curing unit (Valo, Ultradent, USA) according to the manufacturer's instructions (1000 mW/cm2). The prepared specimens were randomly divided into two groups based on their storage conditions (n=10): a control group stored in distilled water and a group subjected to a demineralization solution. The aforementioned specimens were stored at 37 °C for 30 days. The demineralization solution used for this purpose was prepared in a laboratory environment according to appropriate formulations. Before and after storage in the solutions, microhardness values were measured using a Vickers microhardness tester (HMV-2, Shimadzu, Japan) from 3 different points on the top surfaces of the specimens with a load of 2.942 Newtons (HV0.3) for 15 seconds. The resulting indentations were visualized and measured under x40 magnification of the microscope. The measurements were performed 24 hours and 30 days after the specimens were fabricated. For statistical analysis, analysis of variance for repeated measures and the Bonferroni test for pairwise comparisons were used.

Results: Although no significant difference was found between the groups for the initial microhardness values ($p>0.05$), a statistically significant difference emerged between the groups after the procedure ($p<0.001$). While the decrease observed in the microhardness values of the group stored in distilled water was not statistically significant ($p>0.05$), a significant decrease in the surface microhardness values was detected in the group stored in the demineralization solution ($p<0.001$).

Conclusion: It was revealed that demineralization processes can negatively affect the surface microhardness of fluoride-releasing composite resins.

Keywords: Fluoride, microhardness, demineralization

SOP-5

Detection of DNA Residues on Orthodontic Clear Aligners: A Perspective on Biosafety and Personal Data Protection

Bilgenur SATILMIŞ[1], Sezen ATASOY[2], Aslı EKER DAVUT[3], Banu KILIÇ[4]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye
[2]Bezmialem Vakıf University Faculty of Pharmacy, Department of Biochemistry, İstanbul, Türkiye
[3]Bezmialem Vakıf University Institute of Health Sciences, Department of Orthodontics, İstanbul, Türkiye
[4]Bezmialem Vakıf University Faculty of Dentistry, Department of Orthodontics, İstanbul, Türkiye

Introduction: DNA transferred onto the surface of clear aligners during use represents highly sensitive data containing an individual's identity and genetic information, classified in Türkiye as special categories of personal data under Law no. 6698. QR codes on aligner packaging and surfaces may further facilitate access to patient information. However, studies examining the presence of human DNA on clear aligners are limited. This study aims to detect and visualize human DNA on used clear aligners microscopically using DAPI staining, and to highlight potential data breach risks while raising awareness about the protection of genetic data.

Methods: Clear aligners were collected from orthodontic patients and categorized by duration of use (3-66 months). Thirty used samples were selected at defined intervals, while ten unused aligners served as controls. All samples were sectioned into small fragments, stained with DAPI, and examined using a fluorescence microscope (Zeiss Axio Observer Z1). Aligners exhibiting blue-stained cells were classified as DNA-positive.

Results: Forty aligners (30 used, 10 unused) were analyzed. DNA was detected in all used aligners, while no DNA was observed in the control group. As there was complete separation between groups, further statistical analysis was not conducted.

Conclusion: Used clear aligners were found to contain human DNA, demonstrating their potential as carriers of genetic material. These findings indicate that aligners should be regarded not only as medical waste but also as items relevant to personal data security, underscoring the necessity for proper disposal in compliance with biosafety protocols.

Keywords: Clear aligners, DNA, DAPI staining, biosafety

SOP-6

Content, Reliability, and Educational Analysis of YouTube Videos Regarding Fissure Sealants

Atilla Burak GENÇ[1], Mustafa Sarp KAYA[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye
[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Pedodontics, İstanbul, Türkiye

Introduction: The use of digital information sources in health education processes is increasing rapidly. However, the lack of supervision for content on video platforms raises questions regarding the scientific accuracy and reliability of the information. This study was planned to analyze the quality, reliability, and educational value of YouTube videos on fissure sealants using objective criteria.

Methods: A search was conducted on YouTube on March 9, 2026, using the keywords "fissure sealant". Inclusion criteria were videos in Turkish, duration <30 minutes, verbal narration, and being advertisement-free. Non-commentable, or irrelevant videos were excluded. Descriptive data, interaction index, and view rates were recorded. Video quality was evaluated with the global quality scale (GQS), reliability with the reliability score, and content sufficiency with the guidelines-based total content score (TCS). Statistical analysis used Shapiro-Wilk, Mann-Whitney U, Spearman correlation, and chi-square tests ($p<0.05$).

Results: Out of 29 videos, 41.4% featured dentists and 58.6% featured specialists. Specialist videos had significantly higher likes ($p=0.031$) and comment counts ($p=0.044$). No statistically significant difference was found between the speaker's title and the number of views or viewing rates. According to TCS analysis, 75.8% of the videos had "poor" content quality, and no videos were found in the "high" quality group. While a strong positive correlation was found between TCS and GQS ($r=0.608$, $p<0.001$), no significant relationship existed between interaction rates and quality.

Conclusion: YouTube is a low-quality source for informing the public and students about fissure sealants in the Turkish language. The popularity of videos is not directly proportional to their scientific accuracy or educational quality. Dental authorities need to produce more comprehensive and high-quality content on this subject.

Keywords: Fissure sealant, YouTube, information reliability

SOP-7

Evaluation of Idiopathic Soft Tissue Calcifications in the Head and Neck Region via Panoramic Radiography

Necmettin ALTUN[1], İrfan SARICA[2]

[1]*Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye*

[2]*Bezmialem Vakıf University Faculty of Dentistry, Department of Oral and Maxillofacial Radiology, İstanbul, Türkiye*

Introduction: Idiopathic soft tissue calcifications in the head and neck region develop without systemic disorders or local tissue damage and are often detected incidentally on panoramic radiographs. Accurate diagnosis is critical for differential diagnosis and clinical management. This study aims to retrospectively analyze the prevalence and gender distribution of specific idiopathic calcifications.

Methods: Panoramic radiographs of patients at Bezmialem Vakıf University Faculty of Dentistry Hospital between 2023-2024 were retrospectively reviewed. The study screened for five types: laryngeal cartilage degeneration, sialoliths, antroliths, phleboliths, and rhinoliths. Data were systematically analyzed.

Results: A total of 37,698 panoramic radiographs were screened; 1,237 cases over the age of 70 and 7,328 cases under the age of 18 were excluded, resulting in a net analysis of 29,133 cases. A total of 127 idiopathic calcification cases were identified. Laryngeal cartilage degeneration was the most frequent finding (n=59, 46.46%), with 25.42% in males and 74.58% in females. Sialoliths, the second most common (n=36, 28.35%), were detected in 41.67% of male and 58.33% of female patients. Antroliths (n=22, 17.32%) were observed in 63.64% of males and 36.36% of females. Phleboliths (n=9, 7.09%) showed a prevalence of 77.78% in males and 22.22% in females, while the least frequent, rhinolith (n=1, 0.79%), was detected in only one female patient. Overall, 40.16% of cases were male and 59.84% were female.

Conclusion: Panoramic radiographs are significant tools for detecting idiopathic calcifications. Laryngeal cartilage degeneration and sialoliths were the most prevalent types, with findings exhibiting gender-based differences. Accurate identification by dentists is essential for patient health monitoring and clinical referrals.

Keywords: Panoramic radiography, idiopathic calcification, prevalence, laryngeal cartilage, sialolith

SOP-8

Evaluation of Dystrophic Soft Tissue Calcifications in the Head and Neck Region via Panoramic Radiography

Yaren TÜRKTEN[1], Elifhan ALAGÖZ[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye
[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Oral, Dental, and Maxillofacial Radiology, İstanbul, Türkiye

Introduction: Dystrophic soft tissue calcifications in the head and neck region are frequently detected incidentally on panoramic radiographs during routine dental examinations. Although generally asymptomatic, these calcifications are critically important for the early diagnosis of systemic diseases and differential diagnosis. This study aims to retrospectively evaluate the prevalence and gender distribution of specific dystrophic soft tissue calcifications detected via panoramic radiographs.

Methods: Panoramic radiographs of patients who applied to the Bezmialem Vakıf University Faculty of Dentistry between 2023 and 2024 were retrospectively analyzed. Five types of dystrophic calcification were screened: tonsilloliths, calcified atherosclerotic plaques, calcified lymph nodes, arteriosclerosis, and cysticercosis. Data were systematically recorded in Microsoft Excel and analyzed using SPSS 25.0 (IBM Corp.).

Results: Out of 37,698 screened radiographs, 29,133 cases were included after excluding patients under 18 and over 70. A total of 252 calcification cases were detected. The most common finding was tonsilloliths (n=162, 64.29%), observed in 59.88% of males and 40.12% of females. Calcified atherosclerotic plaques (n=49, 19.44%) were found in 36.73% of males and 63.27% of females. Calcified lymph nodes (n=20, 7.94%) showed an equal gender distribution (50%). Arteriosclerosis (n=19, 7.54%) was more prevalent in males (63.16%) than females (36.84%), while all cysticercosis cases (n=2, 0.79%) were detected in male patients (100%). Overall, 52.78% of cases were male and 47.22% were female.

Conclusion: Panoramic radiographs are vital tools for detecting dystrophic soft tissue calcifications. Tonsilloliths were the most frequent finding. Calcified lymph nodes and atherosclerotic plaques were more prevalent in women, while arteriosclerosis and cysticercosis were more common in men. Correct identification of these findings is essential for monitoring systemic health and ensuring necessary multidisciplinary referrals.

Keywords: Panoramic radiography, soft tissue calcification, tonsillolith, atherosclerotic plaque, calcified lymph node

SOP-9

Comparison of the Accuracy of Intraoral Scanners and Spectrophotometers in Dental Shade Selection

Eren DEMİR[1], Gamzenur ÇİÇEK[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Prosthodontics, İstanbul, Türkiye

Introduction: This study aimed to evaluate the shade determination performance of a digital spectrophotometer (VITA Easyshade Advance 4.0) and an intraoral scanner (Medit i700) based on different anatomical regions (incisal, middle, cervical) using the Ivoclar Vivadent A-D shade guide.

Methods: Ten consecutive measurements were performed with each device on 7 primary shade groups from the Ivoclar Vivadent A-D guide. To simulate the polychromatic structure, the first three measurements were taken from the incisal, the next three from the middle, the following three from the cervical, and the final measurement for control (middle) purposes (total n=140). Data were analyzed for regional accuracy rates, inter-device agreement (Cohen's kappa), and statistical significance (Wilcoxon signed-rank test).

Results: The highest accuracy rates were achieved in the middle third of the tabs (SP: 38.1%, IOS: 28.6%). Deviations toward the "D" group were observed in both devices in the incisal region due to translucency, while the Medit i700 systematically shifted shades toward the "B" group in the cervical region. No significant difference was found between the general accuracy performances of the devices (p=0.423), and the overall inter-device agreement was determined to be slight (κ=0.04).

Conclusion: Although intraoral scanners succeed in providing a general shade projection, they remain limited in interpreting optical variations in the cervical and incisal regions. The lack of a significant difference indicates that both methods can be used as auxiliary tools. Validating scanner data with a spectrophotometer is recommended for high-precision restorations.

Keywords: Medit i700, VITA Easyshade 4.0, Ivoclar Vivadent A-D shade guide

SOP-10

Assessment of the Mandibular Nerve Damage Following Extraction of Deeply Impacted Wisdom Teeth: A Retrospective Questionnaire Study

Dilara AYAZ[1], Taha PERGEL[2], Emine Fulya AKKOYUN[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, İstanbul, Türkiye

Introduction: The aim of this study is to retrospectively evaluate the effects of mandibular nerve damage following the extraction of deeply impacted mandibular third molars on the severity of sensory loss, patient satisfaction, and social life through a survey study.

Methods: Thirty patients who underwent deeply impacted mandibular third molar extraction surgery were included in the study. Subjective evaluations of the patients were collected via a visual analog scale-based survey, including criteria for sensory loss level, treatment satisfaction, and impact on social life. On the scale, 0 represents the worst and 10 represents the best condition. Descriptive statistical methods were used in the data analysis.

Results: According to the results of the analysis, the mean general sensory level of the patients in the postoperative period was found to be 4.51±4.35. In contrast, the general treatment satisfaction scores of the patients remained at a very high level of 9.22±1.49. The impact of sensory impairment on social life (in a positive direction) was determined as 8.58±1.91.

Conclusion: The study findings indicate that although mandibular nerve damage following the extraction of deeply impacted third molars is perceived by patients as a moderate sensory loss on average, this situation does not dramatically decrease general treatment satisfaction or social adaptation. The high satisfaction rate despite the complication is considered a reflection of effective preoperative communication and a successful surgical process.

Keywords: Impacted third molar, mandibular nerve injury, patient satisfaction, quality of life

SOP-11

Evaluation of Mandibular Ramus Anterior Thickness in Class I, II and III Dentofacial Deformities

Necat Eren AKKUŞ[1], Nükhet KÜTÜK[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, İstanbul, Türkiye

Introduction: Dentofacial deformities can lead to structural disharmony in the jaws and teeth, potentially affecting the thickness and symmetry of the mandibular ramus. Accurate assessment of ramus morphology is critical for orthodontic and orthognathic surgery planning to minimize surgical risks. This study aims to evaluate and compare the anterior thickness of the mandibular ramus among individuals with Class I, Class II, and Class III dentofacial deformities using computed tomography (CT).

Methods: This retrospective and observational study was conducted on CT images from 42 patients (30 males, 12 females; mean age 23.14±5.03) archived at Bezmialem Vakıf University. Participants were categorized into three equal groups (n=14) based on their skeletal classification. Group 1: Class I, Group 2: Class II, and Group 3: Class III. Anterior ramus thickness was measured digitally on both the right and left sides using standard reference points on CT records. Statistical analysis was performed using one-way analysis of variance to determine differences between the groups, with a significance level set at $p<0.05$.

Results: The mean anterior ramus thickness for the right side was 14.82±1.77 mm, and for the left side, it was 14.77±1.73 mm. For the right side, the mean values were 14.83 mm for Class I, 15.08 mm for Class II, and 14.54 mm for Class III. For the left side, the mean values were 14.19 mm for Class I, 15.33 mm for Class II, and 14.79 mm for Class III. No statistically significant difference was found between the skeletal classes for either the right ($p=0.729$) or left ($p=0.228$) anterior ramus thickness.

Conclusion: Although previous literature suggests variations in ramus morphology among different malocclusions, this study did not find a statistically significant difference in mandibular ramus anterior thickness across Class I, II, and III deformities. These findings suggest that while ramus morphology is essential for surgical planning, anterior thickness may remain relatively consistent across different skeletal classifications in the evaluated patient population.

Keywords: Mandibular ramus, dentofacial deformity, computed tomography, ramus thickness

SOP-12

The Effects of Orthognathic Surgery on Phonetics and Articulation

Yağız AYDIN[1], Selahaddin BAŞYILDIZ[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, İstanbul, Türkiye

Introduction: Orthognathic surgery is widely performed to correct skeletal dentofacial deformities. Beyond functional and aesthetic improvements, surgical repositioning of the maxillofacial complex may affect adjacent structures such as the hyoid bone, larynx, and upper airway involved in phonation. Although previous studies have assessed speech using objective methods, subjective patient-reported data remain scarce in the literature. This study aimed to assess subjective changes in phonation and articulation following orthognathic surgery and to evaluate their impact on patients' quality of life.

Methods: A total of 118 patients (89 Class II, 29 Class III) who underwent bimaxillary orthognathic surgery and completed a minimum of 6 months postoperative follow-up at Bezmialem Vakıf University, Department of Oral and Maxillofacial Surgery were included. Participants completed the Turkish version of the Voice Handicap Index-10 retrospectively for the preoperative period and for their current postoperative condition. Statistical analyses were performed using non-parametric tests, and effect sizes (r) were calculated.

Results: No statistically significant differences were found between Class II and Class III groups regarding change scores ($p=0.060$, $r=0.17$), suggesting a borderline trend. In intragroup analyses, Class II patients showed a significant improvement ($p<0.001$, $r=0.59$), indicating a large effect size. Class III patients did not show significant changes ($p=0.093$), although a moderate effect size ($r=0.31$) suggested a potential trend.

Conclusion: Orthognathic surgery significantly improved subjective voice-related perceptions in Class II patients, while Class III patients demonstrated a non-significant yet generally positive clinical trend. These findings suggest that surgical effects on phonation and articulation may vary by skeletal classification but are overall favorable. Further studies with larger sample sizes are needed.

Keywords: Orthognathic surgery, phonetics, articulation, voice

SOP-13

Comparison of Aesthetic Perceptions of Patients Undergoing Clear Aligner and Fixed Orthodontic Treatment in Terms of Smile Aesthetics

Berra GÖKÇE[1], Gökmen KURT[2], Şerife ŞAHİN[2], Atakan TÜRK[2], Ayşegül YABACI TAK[3]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Orthodontics, İstanbul, Türkiye

[3]Bezmialem Vakıf University Faculty of Medicine, Department of Biostatistics and Medical Informatics, İstanbul, Türkiye

Introduction: An aesthetic smile is highly important for meeting patients' aesthetic expectations in dental treatments. In orthodontic treatments, aesthetic expectations can influence the choice of treatment method and post-treatment patient satisfaction. This study aims to evaluate the perceptions of smile aesthetic parameters among patients undergoing clear aligner and fixed orthodontic treatments and the relationship of these perceptions with treatment preferences.

Methods: This study was conducted on two groups consisting of patients receiving clear aligner and fixed orthodontic treatments. Within the scope of the study, data were collected via a survey using 13 smile photographs covering 6 categories (tooth color, gingival display, midline, buccal corridor width, occlusal cant, maxillary lateral tooth height) and a 5-point Likert scale (1, not aesthetic at all; 5, very aesthetic). Additionally, the survey questioned whether patients chose the treatment for aesthetic reasons. Pearson chi-square and Mann-Whitney U tests were used for intergroup comparisons in data evaluation.

Results: A total of 66 clear aligner patients and 66 fixed orthodontic treatment patients were included in the study. According to the analysis results, a statistically significant difference was detected in the perception of buccal corridor width depending on the treatment method ($p=0.015$). In the occlusal cant parameter, the success of clear aligner users (95.5%) in distinguishing ideal symmetry was found to be significantly higher than that of the fixed treatment group (81.8%) ($p=0.014$). When treatment motivation was examined, the rate of perceiving the cant among those who started treatment for aesthetic reasons (92.1%) was significantly higher than the other group (72.7%) ($p=0.011$). However, regarding lateral tooth dimensions, the success of aesthetically motivated patients in choosing the ideal visual (30.3%) was significantly low ($p=0.033$). No statistical difference was observed between the groups in overall aesthetic success scores ($p=0.128$). The median score for both groups was determined to be 3.00.

Conclusion: In conclusion, general aesthetic components do not show marked variations in patient preferences for orthodontic treatment; however, centering the patient's subjective expectations regarding micro-aesthetic details carries significant importance for achieving clinical success and patient satisfaction.

Keywords: Smile aesthetics, clear aligner, fixed orthodontic treatment, aesthetic perception, dental parameters

SOP-14

Evaluation of the Relationship Between Maxillary Labial Frenulum and Interdental Papilla Tip Using Clinical, Photographic, and Digital Measurement Methods

Mehmet Emin BALTUK[1], Cansu Can YAŞAR[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Periodontology, İstanbul, Türkiye

Introduction: The position of the maxillary labial frenulum is of critical importance for periodontal health and aesthetic smile design. Accurate measurement of the distance between the frenulum attachment level and the interdental papilla tip is a decisive factor in treatment planning. This study aims to comparatively evaluate the alignment and reproducibility of traditional periodontal probing, digital photographic analysis (ImageJ), and three-dimensional (3D) intraoral scanning (IOS) methods in measuring this distance.

Methods: Twenty systemically healthy volunteers between the ages of 18-30 were included in the study. Periodontal statuses were recorded, and frenulum types were determined according to the Placek classification. Distance measurements were performed using a Williams periodontal probe, digital single-lens reflex camera-supported ImageJ software, and a Medit i700 intraoral scanner. Data analysis was conducted using Shapiro-Wilk, Friedman, and Mann-Whitney U tests; the agreement between methods was evaluated using the intraclass correlation coefficient (ICC).

Results: No statistically significant difference was observed among the three measurement methods ($p=0.705$). The overall agreement between methods was found to be at a moderate-to-good level (ICC: 0.701). In analyses based on frenulum type, distance values obtained for the gingival type were significantly higher than those for the papillary type across all clinical, photographic, and digital measurements ($p=0.002$, $p=0.014$, and $p=0.003$, respectively).

Conclusion: Within the limitations of this study, the findings confirm that digital photographic analysis and IOS methods exhibit high alignment with traditional periodontal probing. It is concluded that 3D digital approaches provide more objective and reproducible data compared to conventional methods. These digital methods are considered reliable alternatives for clinical evaluation and treatment follow-up processes.

Keywords: Maxillary labial frenulum, interdental papilla, intraoral scanner, ImageJ, periodontal probing

SOP-15

Effect of the Remineralization Solution on the Surface Roughness and Microhardness of Microhybrid and Fluoride-releasing Composite Resins

İrem Dilem AKTAŞ[1], Burcu OĞLAKÇI ÖZKOÇ[2]

[1]*Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye*

[2]*Bezmialem Vakıf University Faculty of Dentistry, Department of Restorative Dentistry, İstanbul, Türkiye*

Introduction: This study aimed to evaluate changes in surface roughness and microhardness of microhybrid and fluoride-releasing composite resins after immersion in a remineralization solution.

Methods: Microhybrid composite resin (Filtek Z250, 3M ESPE) and fluoride-releasing composite resin (giomer) (Beautifil II, Shofu) were used. A total of 40 disk-shaped specimens (8×2 mm) were prepared (n=20 per material) using teflon molds and polymerized with an LED curing unit (Valo, Ultradent, USA) at 1000 mW/cm^2 according to manufacturer instructions. Specimens were stored in distilled water at room temperature for 24 hours. Each material was divided into two groups (n=10): remineralization solution and air (control). Samples were stored for 30 days in 20 mL remineralization solution or in air. Surface roughness and microhardness were measured at baseline (24 h) and after 30 days from three points on the top surface. Surface roughness was assessed using a contact profilometer, and microhardness using a Vickers microhardness tester. Data were analyzed using repeated measures analysis of variance and Bonferroni tests ($p<0.05$).

Results: Air storage caused a significant decrease in microhardness and an increase in surface roughness for both materials. Remineralization significantly increased surface roughness. Microhardness remained unchanged in the fluoride-releasing composite, whereas a significant decrease was observed in the microhybrid composite.

Conclusion: Both air storage and remineralization increased surface roughness. However, their effects on microhardness varied by material: fluoride-releasing composite maintained its microhardness, while microhybrid composite showed a significant decrease.

Keywords: Microhybrid composite resin, fluoride-releasing composite resin, microhardness, surface roughness, remineralization solution

SOP-16

Analysis of Frenulum-induced Interdental Papilla Stress Using Conventional and Three-dimensional Digital Measurement Techniques

Beyza Nur ERCAN[1], Kubilay Barış ÇİÇEK[2], Cansu Can YAŞAR[3]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye
[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Prosthodontics, İstanbul, Türkiye
[3]Bezmialem Vakıf University Faculty of Dentistry, Department of Periodontology, İstanbul, Türkiye

Introduction: The frenulum is a mucosal fold that stabilizes lip movements and is classified into four types based on its attachment level: mucosal, gingival, papillary, and papilla-penetrating. High frenulum attachments (papillary and papilla-penetrating) may compromise periodontal conditions by promoting gingival recession, plaque accumulation, and orthodontic diastema formation due to mechanical stress during mastication and speech. This study aimed to biomechanically and objectively evaluate the tension stress exerted by the maxillary labial frenulum on the interdental papilla using heat maps generated through the superimposition of three-dimensional digital models.

Methods: Twenty healthy volunteers aged 18-30 years were included. Three-dimensional intraoral scans (Medit i700) were obtained in both resting and maximal retraction positions. The models were superimposed using the Medit Measurement app, and volumetric and dimensional changes were analyzed using the "deviation display" (heat map) mode. The results were compared with those obtained from the conventional tension (blanch) test. Data were analyzed using the Shapiro-Wilk, Friedman, and Mann-Whitney U tests, and agreement between methods was assessed using the intraclass correlation coefficient.

Results: No significant difference was found between the tension test and the heat map method in terms of stress detection ($p=1.000$). However, a significant association between frenulum type and stress presence was observed only with the heat map method ($p=0.018$), with papillary frenulum types showing higher stress levels.

Conclusion: The heat map method appears to provide an objective and digital approach for evaluating frenulum-induced stress, particularly highlighting the greater biomechanical stress associated with papillary-type attachments.

Keywords: Digital dentistry, interdental papilla, intraoral scanning, maxillary labial frenulum, stress analysis

SOP-17

Effect of pH Cycling on the Microhardness of Fluoride-releasing Composite Resins

İrem İlayda ŞEKERLİ[1], Leyla FAZLIOĞLU[2]

[1]Bezmialem Vakıf Üniversitesi Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf Üniversitesi Faculty of Dentistry, Department of Restorative Dentistry, İstanbul, Türkiye

Introduction: This study aimed to evaluate the changes in the surface hardness of fluoride-releasing nanohybrid composites exposed to pH cycling.

Methods: A fluoride-releasing nanohybrid composite resin (Beautifil II, Shofu, Japan) was used in this study. A total of 20 disk-shaped resin specimens were prepared using teflon molds (8 \times 2 mm) and polymerized with an LED light-curing unit (Valo, Ultradent, USA) at 1000 mW/cm^2 according to the manufacturer's instructions. The specimens were divided into two groups based on the storage conditions: pH cycling and air (control). According to their groups, specimens were stored in 20 mL solutions in closed containers, undergoing 16 hours of remineralization and 8 hours of demineralization daily for 30 days. Microhardness values were measured before and after storage in solutions and air at three different points on the top surfaces using a Vickers microhardness tester. For statistical analysis, repeated measures analysis of variance was used, and Bonferroni tests were utilized for pairwise comparisons ($p<0.05$).

Results: Storage in the air environment and exposure to pH cycling caused a significant decrease in the surface microhardness of the composites.

Conclusion: Both air exposure and pH cycling had a negative effect on the surface microhardness of the fluoride-releasing composite resin.

Keywords: Fluoride-releasing nanohybrid composite resin, surface microhardness, pH cycling, demineralization, remineralization

SOP-18

Clinical Evaluation of Anterior Dental Treatments Performed Under General Anesthesia: 6-30 Month Follow-up

Yasemin YAKICI[1], Meltem BAKKAL[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Pedodontics, İstanbul, Türkiye

Introduction: Resin-based restorations applied to anterior primary teeth are frequently preferred in young children with early childhood caries. The aim of this study is to evaluate the clinical performance of anterior resin restorations performed under general anesthesia (GA) according to jaw group and follow-up period.

Methods: A total of 82 anterior resin restorations applied under GA to children aged 36-72 months were evaluated for a 6-30 month clinical follow-up. Cases were compared according to jaw group (maxilla n=47, mandible n=35) and follow-up period (early period; 0-20 months n=41, late period; 21-30 months n=41) using the chi-square test ($p<0.05$).

Results: In the comparison of jaw groups, success in surface integrity in maxillary restorations (83.0%, n=39/47) was found to be statistically significantly lower than in mandibular restorations (97.1%, n=34/35) (p=0.042). No significant difference was found between the two groups in terms of marginal adaptation, secondary caries, color match, anatomical form, and retention ($p>0.05$). In the comparison of follow-up periods, the success of surface integrity decreased from 97.6% (n=40/41) in the early period to 80.5% (n=33/41) in the late period, and this decrease was found to be statistically significant (p=0.013). While anatomical form was preserved at a rate of 100.0% (n=41/41) in the early period, this rate decreased to 87.8% (n=36/41) in the late period (p=0.021). No significant difference was observed between the periods in other parameters ($p>0.05$).

Conclusion: Anterior resin restorations performed under GA demonstrated superior clinical success in the early period. However, surface integrity and anatomical form showed changes over time, and surface integrity was particularly negatively affected in maxillary restorations. These findings emphasize the importance of regular clinical follow-ups, especially for maxillary anterior restorations and long-term follow-up cases.

Keywords: General anesthesia, anterior primary tooth, resin restoration, clinical evaluation, early childhood caries

SOP-19

Integrated Endomotors with Apex Locators in Dentistry: Comparative Evaluation of Different Devices

Ali DİRİ[1], Fatma KAPLAN[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Endodontics, İstanbul, Türkiye

Introduction: Accurate determination of working length in root canal treatment is critical for treatment success. The aim of this study is to evaluate and compare the accuracy of working length measurements up to the minor apical constriction using three different endomotor systems integrated with apex locators.

Methods: After obtaining ethical approval, single-rooted maxillary anterior teeth were collected. Sixty teeth without calculus, resorption, caries, or restorations were selected using periapical radiographs. The length of each tooth was standardized to 20±1 mm using a high-speed handpiece and fissure bur. After access cavity preparation, the actual length was determined by advancing a #10 K-file until visible at the apex and then subtracting 0.5 mm, measured with a digital caliper. Teeth were randomly divided into three groups (n=20): X-Smart Pro+, Endo Master, and BR Touch. Each group was placed in freshly mixed alginate within a training model (EduDent, İstanbul, Türkiye). Measurements were performed using a 15/.04 VDW Rotate files at 300 rpm and 1.3 Ncm torque settings with apex locator-integrated endomotors.

Results: In intra-group comparisons, no statistically significant difference was found between actual length and device measurements ($p>0.05$). Intergroup comparisons, no significant difference was observed among the three devices ($p=0.08$). The mean and median distributions of measurements were similar across all groups.

Conclusion: Within the limitations of this study, the X-Smart Pro+, Endo Master, and BR Touch systems showed similar accuracy in determining working length, with no statistically significant differences among them. All devices demonstrated clinically acceptable levels of accuracy.

Keywords: Working length, integrated apex locator, BR Touch, Endo Master, X-Smart Pro+

SOP-20

Orthognathic Surgery Planning in Patients with Maxillofacial Deformities Based on Cephalometry and Photographs: Interdisciplinary Approaches

Aycan AYYILDIZ[1], Özge DOĞANAY ÖZYILMAZ[2]

[1]*Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye*

[2]*Bezmialem Vakif University Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, İstanbul, Türkiye*

Introduction: Orthognathic surgery is widely performed to correct skeletal dentofacial deformities, aiming to improve both functional occlusion and aesthetics. Accurate diagnosis and treatment planning require close collaboration between orthodontists and oral and maxillofacial surgeons, however, differences in clinical perspective may influence decision-making. This study aimed to evaluate how clinicians from different specialties and experience levels assess deformities, perform surgical planning based on photographs and cephalometric analysis, and respond to practice-related questions.

Methods: This cross-sectional survey used records of a single patient, including frontal, resting, smiling, occlusal cant, and profile photographs with cephalometric measurements. Participants identified the deformity type and proposed an orthognathic surgical plan. The survey further explored approaches to digital planning, temporomandibular joint evaluation, psychiatric consultation, multidisciplinary collaboration, and the use of patient-specific implants (PSIs).

Results: Seventy-seven participants (47 surgeons, 30 orthodontists) were included. No significant differences were found between disciplines in deformity assessment or surgical planning ($p>0.05$). Among surgeons, the need for multidisciplinary collaboration was reported as "always" by most residents (87.5%) and less frequently by specialists (57.1%). Regarding PSI use, residents reported using it "sometimes" (57.5%) or "always" (40.0%), whereas specialists predominantly reported "sometimes" (71.4%) or "never" (28.6%). In orthodontics, only chin position evaluation differed ($p=0.016$).

Conclusion: Orthodontists and surgeons demonstrate similar approaches in deformity assessment and surgical planning. Clinical experience appears to influence decision-making, particularly within the surgical group, suggesting that treatment approaches may become more individualized with increasing experience. Differences in PSI use among surgeons indicate that residents tend to adopt new technologies more readily, whereas specialists follow a more conservative approach, reflecting a balance between technological advancements and clinical experience in surgical practice.

Keywords: Orthognathic surgery, maxillofacial deformities, treatment planning, multidisciplinary approach

SOP-21

Evaluation of the Relation between the Menstrual Cycle and the Pain Experienced at the Initial Application of Clear Aligners and Multibracket System Treatments

İrem BOZAR[1], Berza YILMAZ[2], Nihal KAYA[2], Ferdi ALLAF[3], Begüm ŞENTÜRK[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Orthodontics, İstanbul, Türkiye

[3]İstanbul Health and Technology University Faculty of Dentistry, Department of Orthodontics, İstanbul, Türkiye

Introduction: Orthodontic treatment-related pain is one of the primary concerns of patients initiating therapy. Hormonal fluctuations during the menstrual cycle are known to influence pain perception. This study aimed to investigate whether the phase of the menstrual cycle affects pain levels in female patients beginning clear aligner (CA) or multibracket system (MBS) orthodontic treatment.

Methods: A total of 61 female patients (30 MBS, 31 CA) were enrolled and divided into four groups based on treatment type and menstrual cycle phase at the time of initial appliance placement: MBS-follicular (n=15), MBS-luteal (n=15), CA-follicular [(CAF) n=16], and CA-luteal [(CAL) n=15]. The level of pain experienced by the patients was assessed using the visual analog scale (VAS) at four time points: on the evening of the day treatment was initiated and over the following three days. Depression and oral health-related quality of life were evaluated using the Beck Depression Inventory (BDI) and the Oral Health Impact Profile-14 (OHIP-14), respectively. Statistical analysis was performed using the Mann-Whitney U test.

Results: VAS scores were significantly higher in the luteal phase compared to the follicular phase in both treatment groups (MBF vs. MBL: $p<0.001$; CAF vs. CAL: $p<0.001$). MBS patients reported significantly greater pain than CA patients overall ($p=0.013$). OHIP-14 scores were significantly higher in the luteal phase when all groups were considered ($p=0.047$). No significant differences were found in BDI scores across any of the comparisons ($p>0.05$).

Conclusion: The menstrual cycle phase significantly influences pain perception at the initiation of orthodontic treatment. Patients in the luteal phase experience greater pain regardless of treatment type. Scheduling orthodontic appliance placement during the follicular phase may help minimize initial discomfort. MBS treatment was associated with higher pain levels compared to CAs.

Keywords: Orthodontic pain, menstrual cycle, clear aligners, multibracket system, VAS, follicular phase, luteal phase

SOP-22

Knowledge and Attitudes Regarding the Pregnancy-periodontal Disease Relationship Among Medical and Dental Students at Bezmialem Vakıf University

Merve Ece YAVUZ[1], Cansu Can YAŞAR[2]

[1]*Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye*
[2]*Bezmialem Vakıf University Faculty of Dentistry, Department of Periodontology, İstanbul, Türkiye*

Introduction: Hormonal changes during pregnancy may increase the risk of periodontal diseases and have been associated with adverse systemic outcomes. This study aimed to compare the knowledge levels and attitudes of medical and dental students at Bezmialem Vakıf University regarding the relationship between pregnancy and periodontal disease.

Methods: This cross-sectional study was conducted among 294 volunteers from Bezmialem Vakıf University, including 172 medical students (4,5,6th grade) and 122 dental students (4,5th grade). Data were collected using a structured questionnaire via Google Forms, including items on demographics, knowledge of the pregnancy-periodontal disease relationship, and attitudes. Statistical analyses were performed using SPSS version 29. Pearson's chi-square test with Monte Carlo simulation was used to compare categorical knowledge responses between faculties, while the Kruskal-Wallis test was applied to analyze differences in attitude scores among student groups.

Results: A total of 294 students participated (mean age: 23.30±1.12 years; 64.3% female). Dental students demonstrated significantly higher knowledge of periodontal disease and its systemic associations than medical students ($p<0.001$). In contrast, medical students showed a higher misconception, particularly regarding the management of gingival bleeding during pregnancy ($p<0.001$). Attitudes toward oral health during pregnancy were generally positive; however, dental students exhibited more favorable attitudes in several domains ($p<0.05$). No significant difference was observed regarding the perceived importance of education on the pregnancy–periodontal disease relationship ($p=0.105$).

Conclusion: Dental students demonstrated higher levels of knowledge and awareness regarding the relationship between pregnancy and periodontal disease, likely due to their specialized clinical training. These findings emphasize the importance of incorporating pregnancy-related oral health education.

Keywords: Pregnancy, periodontal diseases, oral health, gum

SOP-23

Analysis of Gingival Color Using Polarized Digital Photographs Taken with Different Techniques

Edanur ÖZTÜRK[1], Sanubar SHAKILIYEVA[2], Şeyma KÖLE[2] Şadiye GÜNPINAR[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf Unıversity Faculty of Dentistry, Department of Periodontology, İstanbul, Türkiye

Introduction: Gingival color is a significant indicator of periodontal health and plays a critical role in clinical evaluation regarding aesthetics, as well as early diagnosis. This study aims to compare the accuracy, reliability, and differences between gingival color analysis methods using mobile devices and professional clinical cameras equipped with cross-polarized filters.

Methods: The study included 63 dental students (32 female, 31 male) meeting these criteria: non-smokers, no medication or systemic diseases, probing depths <3 mm, no mouth breathing, and no anterior restorations. Images were captured with filtered mobile devices and professional cameras (filtered/non-filtered). CIELAB parameters (ΔE, CIEDE2000) and clinical indices. Additionally, plaque index, gingival index, bleeding on probing, clinical attachment level, and probing pocket depth were measured.

Results: Of 190 measurements (50.5% female, 49.5% male), the Mann-Whitney U test showed no significant gender differences for ΔE and CIEDE2000 ($p>0.05$). Kruskal-Wallis results indicated significantly higher deviations for mobile devices compared to non-filtered professional cameras ($p<0.001$). Overall, the professional camera with a polarized filter yielded the highest accuracy, statistically outperforming non-filtered methods.

Conclusion: Professional cameras with polarized filters provided the most accurate results in color detection and represent the most reliable method for clinical practice. The margin of error in color measurement for mobile device cameras was significantly higher than other methods. Therefore, their standalone use is not reliable for precise color selection. Gender has no statistical effect on the accuracy of measurements in color analysis processes.

Keywords: Cross-polarized filter, CIELAB, gingival color analysis

SOP-24

Comparison of the Solubility Effects of Acetic Acid, Maleic Acid, and EDTA on Biodentine

Uğur ÖNEN[1], Tuğçe ARAS[2], Mehmet Burak GÜNEŞER[2], Ali TOPRAK[3]

[1]*Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye*

[2]*Bezmialem Vakıf University Faculty of Dentistry, Department of Endodontics, İstanbul, Türkiye*

[3]*Bezmialem Vakıf University Faculty of Medicine, Department of Biostatistics and Medical Informatics, İstanbul, Türkiye*

Introduction: The behavior of calcium silicate-based materials in solvents is important for the removability of root canal filling materials during retreatment procedures. The aim of this *in vitro* study was to evaluate the effects of 2% acetic acid, 7% maleic acid, 17% ethylenediamine tetraacetic acid (EDTA), and distilled water on the solubility of Biodentine. The null hypothesis was that the tested solvents would increase the solubility of Biodentine.

Methods: Biodentine was prepared according to the manufacturer's instructions and standardized disc-shaped samples (4 mm in diameter and 6 mm in height) were fabricated using silicone molds. The samples were stored at 37 °C and 100% humidity for 21 days and then surface-polished to achieve standardization. Initial weights (mL) were recorded as the mean of three measurements. The samples were randomly divided into four groups (n=10) and immersed in 2% acetic acid, 7% maleic acid, 17% EDTA, and distilled water for 10 minutes. After immersion, the samples were rinsed, dried, and kept in an incubator for 24 hours. Final weights (m2) were measured, and solubility values were calculated according to ISO 3107 standards. Data were statistically analyzed, and the level of significance was set at $p<0.05$.

Results: The effect of different solutions on weight change of Biodentine samples was evaluated using the Kruskal-Wallis test, and a statistically significant difference was found among the groups ($p=0.002$). Pairwise comparisons revealed that the maleic acid group caused significantly greater weight loss compared to EDTA ($p=0.037$), acetic acid ($p=0.007$), and distilled water ($p=0.002$) groups. No statistically significant differences were observed among EDTA, acetic acid, and distilled water groups ($p>0.05$).

Conclusion: Seven percent maleic acid showed the highest solubility effect on Biodentine and may be considered a potential agent for facilitating material removal during retreatment procedures.

Keywords: Biodentine, chelating agents, solubility

SOP-25

Evaluation of the Solubility Behavior of NeoMTA Plus Under Different Chelating Agents

Ali İLKADLI[1], Tuğçe ARAS[2], Mehmet Burak GÜNEŞER[2], Ali TOPRAK[3]

[1]*Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye*

[2]*Bezmialem Vakıf University Faculty of Dentistry, Department of Endodontics, İstanbul, Türkiye*

[3]*Bezmialem Vakıf University Faculty of Medicine, Department of Biostatistics and Medical Informatics, İstanbul, Türkiye*

Introduction: The removability of calcium silicate-based materials from the root canal is of critical importance in cases of endodontic treatment failure. The aim of this *in vitro* study was to evaluate the effects of 2% acetic acid, 7% maleic acid, 17% ethylenediamine tetraacetic acid (EDTA), and distilled water on the solubility of NeoMTA Plus. The null hypothesis was that the tested solvents would increase the solubility of NeoMTA Plus.

Methods: NeoMTA Plus was prepared per manufacturer instructions, and disc samples (4 mm diameter, 6 mm height) were formed using silicone molds. Samples were stored at 37 °C and 100% humidity for 21 days and surface-standardized. Initial weights (m1) were recorded as the mean of three measurements. Samples were divided into four groups (n=10) and immersed for 10 minutes in 2% acetic acid, 7% maleic acid, 17% EDTA, or distilled water. After rinsing and drying, they were incubated for 24 hours. Final weights (m2) were measured, and solubility was calculated according to ISO 3107. Statistical significance was set at $p<0.05$.

Results: The effect of different solutions on the weight change of NeoMTA samples was evaluated using the Kruskal-Wallis test, and a statistically significant difference was found among the groups ($p=0.001$). Pairwise comparisons revealed that the maleic acid group caused significantly greater weight loss compared to EDTA ($p=0.004$), acetic acid ($p=0.012$), and distilled water ($p=0.006$) groups. No statistically significant differences were observed among EDTA, acetic acid, and distilled water groups ($p>0.05$).

Conclusion: Seven percent maleic acid significantly increased the solubility of NeoMTA Plus compared to the other tested solutions. This finding suggests that maleic acid may be considered a potential solvent for facilitating the removal of NeoMTA Plus from the root canal.

Keywords: Chelating agents, NeoMTA Plus, solubility

SOP-26

Apex Locators in Dentistry - Comparative Evaluation of Different Devices

Hüseyin Salih HALLAÇOĞLU[1], Fatma KAPLAN[2]

[1]*Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye*

[2]*Bezmialem Vakıf University Faculty of Dentistry, Department of Endodontics, İstanbul, Türkiye*

Introduction: One of the crucial factors influencing the success of root canal treatment is the accurate determination of the working length. Recently, endomotors integrated with apex locators have become increasingly widespread. The aim of this study was to compare the performance of three different integrated devices as apex locators.

Methods: Following ethical committee approval, 60 maxillary anterior incisors without calculus, resorption, caries, or restorations were selected. The length of each tooth was standardized to 20±1 mm using a high-speed handpiece and fissure bur, and access cavities were prepared. A #10K-file was advanced until its tip became visible at the apical foramen; and the actual working length was determined by subtracting 0.5 mm from digital caliper measurement. The teeth were randomly divided into three groups of 20 teeth each according to the devices used: BR Touch, Endo Master, and X-Smart Pro+. After embedding the teeth in freshly mixed alginate within an educational model (EduDent, İstanbul, Türkiye), the working lengths were determined using the apex locator mode of the integrated devices with a #15 K-file.

Results: In all three groups, comparisons between the actual tooth lengths and the measurements obtained using the apex locator modes of the integrated devices were evaluated with the Friedman test, and no statistically significant difference was found. Comparisons among the apex locator modes of the X-Smart Pro+, Endo Master, and BR Touch devices were evaluated using the Kruskal-Wallis test, and no statistically significant difference was observed among the results (p=0.13).

Conclusion: Within the limitations of this study, of the apex locator modes of the X-Smart Pro+, Endo Master, and BR Touch devices demonstrated similar accuracy in working length determination, with no statistically significant differences among them.

Keywords: Working length, integrated apex locator, BR Touch, Endo Master, X Smart Pro+

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DENTISTRY STUDENTS' RESEARCH DAY
21 MAY 2026

POSTER PRESENTATIONS

PP-1

Effect of Demineralization on the Microhardness of a Microhybrid Resin Composite

Bilal ÜNALMIŞ[1], Ceren DEĞER[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Restorative Dentistry, İstanbul, Türkiye

Introduction: Improved physical and esthetic properties of resin composites have led to their widespread use in both anterior and posterior restorations. However, exposure to chemical and physical factors in the oral environment may alter their surface characteristics. Demineralization processes may compromise the structural integrity of these materials, leading to deterioration in their mechanical properties. Surface microhardness is an important parameter closely related to wear resistance and clinical performance. Therefore, evaluating the effects of demineralization solutions on composite resins is clinically relevant. The aim of this study was to investigate the effect of storage in a demineralization solution on the surface microhardness of a microhybrid composite resin.

Methods: A total of 20 disc-shaped (8x2) specimens were prepared from a microhybrid composite resin (Filtek Z250, 3M ESPE) using standardized molds. After polymerization, all specimens were stored in distilled water for 24 hours. Baseline surface microhardness values were measured using a Vickers microhardness tester (HMV Microhardness Tester, Shimadzu). The specimens were randomly divided into two groups (n=10): control (distilled water) and demineralization (pH=4.8 solution). All specimens were stored under standardized conditions for 30 days, after which measurements were repeated. Data were analyzed using repeated measures analysis of variance with Bonferroni test ($p<0.05$).

Results: No significant difference was observed between the groups at baseline ($p>0.05$). After the experimental period, the microhardness values of the demineralization group were significantly lower than those of the control group ($p<0.05$). Within-group comparisons showed a significant decrease in both groups ($p<0.05$), with a more pronounced reduction in the demineralization group.

Conclusion: Demineralization significantly reduced the surface microhardness of the microhybrid composite resin, whereas distilled water caused a more limited decrease. These findings suggest that demineralization may adversely affect the mechanical properties of composite resins.

Keywords: Microhardness, demineralization, resin composite

PP-2

The Effect of Demineralization Solution on the Surface Roughness of Fluoride-releasing Composite Resin

Melike EROĞLU[1], Ayşenur Tunç DİCLE[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Restorative Dentistry, İstanbul, Türkiye

Introduction: This study aimed to evaluate the changes in surface roughness of a fluoride-releasing restorative material under intraoral demineralization conditions.

Methods: A fluoride-releasing monochromatic composite resin (Beautifil II, Shofu, Japan) was used in this study. A total of 20 disk-shaped resin specimens were prepared using acetate molds (8×2) (n=20) and polymerized according to the manufacturer's instructions using an LED light device (Valo, Ultradent, USA) at 1000 mW/cm2. The prepared specimens were randomly divided into two groups based on storage conditions (n=10): a control group stored in distilled water and a group subjected to demineralization solution. The specimens were stored at 37 °C for 30 days. The demineralization solution used for this purpose was prepared in the laboratory according to appropriate formulations. Surface roughness measurements (Ra) of all specimens were performed using a contact profilometer (Marsurf M 300 C) at 3 different points on the upper surfaces of the specimens. Measurements were taken 24 hours and 30 days after specimen fabrication. Surface roughness data were analyzed using repeated measures analysis of variance and Bonferroni tests.

Results: While no statistically significant difference was found between the groups in initial surface roughness values ($p>0.05$), a significant difference emerged between the groups after treatment ($p<0.05$). Although the increase in surface roughness values in the distilled water group was not statistically significant ($p>0.05$), a significant increase in surface roughness values was detected in the demineralization solution group ($p<0.001$).

Conclusion: The results indicate that demineralization processes significantly increase the surface roughness of fluoride-releasing composite resins.

Keywords: Fluoride, roughness, demineralization

PP-3

Evaluation of the Hygiene Habits of Complete Denture Patients Admitted to a University Dental Hospital

Dila ŞENKARDEŞLER[1], Fatma Şehnaz KAZOKOĞLU[2], Ayşegül YABACI TAK[3]

[1]*Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye*

[2]*Bezmialem Vakıf University Faculty of Dentistry, Department of Prosthodontics, İstanbul, Türkiye*

[3]*Bezmialem Vakıf University Faculty of Medicine, Department of Biostatistics and Medical Informatics, İstanbul, Türkiye*

Introduction: Plaque accumulation on complete dentures plays a critical role in the development of complications such as denture stomatitis and mucosal inflammation. Therefore, evaluating denture hygiene and its association with patients' hygiene habits is of clinical importance. This study aimed to assess the hygiene practices of complete denture wearers and to investigate their relationship with clinically determined denture hygiene levels.

Methods: Sixty complete denture patients were included. Demographic characteristics, systemic health status, duration of denture use, and hygiene habits were recorded a structured questionnaire. Denture hygiene was scored from 0 (no plaque) to 3 (heavy plaque accumulation) using the Budtz-Jørgensen (1977) index based on standardized denture photographs evaluated by two independent observers. Although originally defined for the internal surface, the index was also applied to the external surface. Data were analyzed using Mann-Whitney U and Kruskal-Wallis tests, and interobserver agreement was assessed the intraclass correlation coefficient (ICC).

Results: Interobserver agreement was high (ICC=0.833 for internal surface; ICC=0.836 for external surface). The median internal surface hygiene score was 1. Internal hygiene scores differed significantly according to chronic disease status, with higher scores (poorer hygiene) observed in individuals without chronic disease ($p=0.009$). External surface scores were significantly associated with denture usage duration, showing an increasing trend with longer use ($p=0.014$). Although most participants reported daily cleaning, no significant relationship was found between cleaning frequency and hygiene scores ($p>0.05$). No significant differences were observed for other variables.

Conclusion: Self-reported hygiene habits were not significantly associated with clinically assessed denture hygiene. The photograph-based application of the Budtz-Jørgensen index demonstrated high interobserver reliability.

Keywords: Complete denture, denture hygiene, Budtz-Jørgensen index, hygiene habits

PP-4

The Effect of pH Cycling on the Surface Roughness of Fluoride-releasing Composite Resins

Eyüp Erkan ÇOLAK[1], Leyla FAZLIOĞLU[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Restorative Dentistry, İstanbul, Türkiye

Introduction: The aim of this study was to evaluate the changes in surface roughness of fluoride-releasing nanohybrid composite resins exposed to pH cycling.

Methods: A fluoride-releasing nanohybrid composite resin (Beautifil II, Shofu, Japan) was used in this study. A total of 20 disk-shaped resin specimens were prepared using Teflon molds (8×2 mm) and polymerized with an LED curing unit (Valo, Ultradent, USA) according to the manufacturer's instructions (1000 mW/cm^2). The specimens were divided into two groups based on storage conditions: pH cycling and air (control). According to their groups, specimens were stored in 20 mL of solution in closed containers for 30 days, undergoing 16 hours of remineralization and 8 hours of demineralization daily. Surface roughness values were measured before and after storage in solutions and air, using a contact profilometer (Marsurf M 300 C; Mahr GmbH, Germany) at three different points on the top surfaces of the specimens. Statistical analyses were performed using repeated measures analysis of variance and Bonferroni tests for pairwise comparisons ($p<0.05$).

Results: Storage in air did not cause a significant change in surface roughness. However, exposure to pH cycling resulted in a significant increase in surface roughness values.

Conclusion: pH cycling had a negative effect on the surface roughness of the fluoride-releasing composite resin.

Keywords: Fluoride-releasing nanohybrid composite resin, surface roughness, pH cycling, demineralization, remineralization

PP-5

Evaluation of Patient Satisfaction Following Apical Resection of Teeth Associated with Odontogenic Cysts and Tumors Using the OHIP-14

Selin EREN[1], Taha PERGEL[2], Emine Fulya AKKOYUN[2], Ali COŞAR[3], Mohamad Samer ALRAJEH[3]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, İstanbul, Türkiye

[3]Bezmialem Vakıf University Institute of Health Sciences, Department of Oral and Maxillofacial Surgery, İstanbul, Türkiye

Introduction: This study aimed to evaluate patient satisfaction and oral health-related quality of life in individuals who underwent endodontic treatment combined with apical resection for teeth associated with odontogenic cysts and tumors, utilizing the validated Oral Health Impact Profile-14 (OHIP-14) instrument.

Methods: A retrospective analysis was conducted on patients treated between 2020 and 2024 for teeth associated with odontogenic cysts and tumors who underwent endodontic treatment followed by apical resection. Patients meeting the inclusion criteria were enrolled in the study. Eligible participants were contacted via telephone, informed about the study protocol, and subsequently administered the OHIP-14 questionnaire. Data were analyzed using descriptive statistics and expressed as means and standard deviations.

Results: A total of 48 individuals, aged between 18 and 60, were included in the study and a single-group study design was adopted. Analysis of the OHIP-14 item scores revealed mean values ranging from 0.00 to 0.85, indicating a generally low level of impact on quality of life related to oral health. These findings suggest that the overall oral health-related quality of life of the participants was favorable. The standard deviation values ranged between 0.00 and 1.08, reflecting limited variability across the sample. Although certain individuals reported relatively higher levels of discomfort, the overall distribution remained concentrated around low scores.

Conclusion: The OHIP-14 findings demonstrate that oral health-related quality of life remains largely preserved following apical resection procedures in teeth associated with odontogenic cysts and tumors. Physical pain emerged as the most prominent domain affected; however, it was predominantly characterized as mild and transient. Functional limitations, particularly in relation to speech, were found to be minimal across the majority of participants. Notably, relatively higher scores were observed in items related to taste disturbance, suggesting the potential occurrence of postoperative sensory alterations in a subset of patients. Collectively, these results indicate that the applied dental treatments interventions do not exert a clinically significant negative impact on patients' quality of life, thereby supporting the effectiveness of these interventions from a patient-centered perspective.

Keywords: OHIP-14, oral health-related quality of life, apical resection, endodontic treatment, odontogenic cysts, odontogenic tumors

PP-6

Determination of Oral Health Attitudes of Preclinical Dentistry Students

Bengü ERDOĞAN[1], Zümrüt Ceren ÖZDUMAN[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Restorative Dentistry, İstanbul, Türkiye

Introduction: Oral and dental health is an important part of overall health, and individuals' attitudes and behaviors play a critical role in maintaining this health. This study aims to determine the attitudes and behaviors of preclinical dentistry students regarding oral health.

Methods: This study is a cross-sectional survey conducted on preclinical dentistry students. A total of 92 preclinical students were included in the study. Categorical variables were presented as frequency and percentage values. Pearson chi-square and Fisher's exact chi-square tests were used in statistical analyses. The analyses were performed using IBM SPSS Statistics 22 software, and the significance level was accepted as 0.05.

Results: Of the participants in the preclinical group, 68.5% were female and 31.5% were male. The majority of participants (94.6%) had previously visited a dental clinic, and 91.3% reported brushing their teeth at least twice a day. However, the rate of brushing after every meal remained limited at 26.1%. Regular dental floss use was 37%, while regular mouthwash use was found to be 23.9%. A total of 68.5% of participants reported concern about bad breath. Smoking prevalence was 12%, and among smokers, the belief that their teeth worsened despite brushing was significantly higher ($p<0.05$). In gender-based analyses, it was found that visiting a dental clinic and regular use of dental floss were significantly higher among females compared to males ($p<0.05$). Additionally, regular use of mouthwash was significantly more common among participants who used professional brushing techniques ($p<0.05$).

Conclusion: Although basic oral hygiene habits are common among preclinical students, auxiliary hygiene practices are insufficient. Factors such as gender and smoking affect oral health behaviors. Therefore, it is important to increase oral health education and promote proper hygiene habits.

Keywords: Oral health, dental hygiene, preclinical students, attitude, behavior

PP-7

Determination of Oral Health Attitudes of Clinical Dental Students

Sude BOZ[1], Zümrüt Ceren ÖZDUMAN[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Restorative Dentistry, İstanbul, Türkiye

Introduction: Attitudes toward oral health play a decisive role in the development and maintenance of individuals' oral hygiene behaviors. Evaluating these attitudes is important for revealing the current status of oral health-related behaviors. The aim of this study is to assess the attitudes toward oral health of dental students receiving clinical training.

Methods: A total of 92 dental students undergoing clinical training were included in the study. Of the participants, 68.5% were female and 31.5% were male. Data were collected through a questionnaire, and categorical variables were presented as frequencies and percentages. Pearson's chi-square and Fisher's exact chi-square tests were used for statistical analyses, and the significance level was accepted as $p<0.05$.

Results: The majority of participants brushed their teeth at least twice a day (84.9%) and applied professional brushing techniques (81.4%). However, the rates of regular dental floss use (37.2%) and mouthwash use (23.3%) were found to be considerably low. Smoking, reported by 45.3% of the students, emerged as a significant risk factor for oral health. Female students had significantly higher rates of brushing their teeth at least twice a day and using mouthwash compared to male students ($p<0.05$). Additionally, the use of professional brushing techniques was significantly higher among non-smoking students ($p<0.05$). Furthermore, students who regularly used mouthwash showed significantly higher rates of brushing their teeth at least twice a day and after every meal ($p<0.05$).

Conclusion: Although basic oral hygiene habits among clinical dental students were found to be at an adequate level, supportive oral care practices were notably insufficient. In addition, the prevalence of smoking and its association with oral health behaviors highlight the need for targeted preventive approaches in this group.

Keywords: Dental students, oral health, attitude, hygiene, clinical

PP-8

Evaluation of the Presence of Bruxism and Parental Awareness in Children

Yaşar Taha BALTACI[1], Nihal KAYA[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Orthodontics, İstanbul, Türkiye

Introduction: Early diagnosis of childhood bruxism is critical in preventing its continuation into adulthood, parental awareness plays an important role in this process. This study aimed to evaluate the presence of bruxism in children aged 7-10 years and the level of awareness of the family.

Methods: Within the scope of the research, 200 children (101 girls, 99 boys) aged 7-10 years who applied to the dental faculty for routine check-ups and did not have systemic diseases and their parents were included in the study. The average age of the participants was recorded as 8.45±1.08. To measure parents' awareness, survey questions were asked, and then, during the intraoral clinical examination performed by the researcher, tooth wear, tooth marks on the tongue, and hyperkeratosis areas on the cheek mucosa were evaluated. SPSS software was used for the statistical analysis of the data, and a $p<0.05$ value was considered statistically significant. Pearson chi-square test was used.

Results: In the study, the clinical bruxism prevalence in children was 9.0% (n=18), while according to parental statements it was 16.5%, and the difference between them was statistically significant ($p<0.001$). There was no statistically significant difference between genders in terms of the frequency of bruxism ($p>0.05$). A highly significant relationship was found between parental statements and clinical diagnosis ($p<0.001$). In the bruxism group, tooth wear (94.4%), cheek hyperkeratosis (72.2%), and tongue marks (27.8%) were found to be significantly higher compared to the control group ($p<0.001$). Compared to the control group, a statistically significant relationship was found between the presence of all these clinical symptoms and the diagnosis of bruxism ($p<0.001$). While 80% of parents stated that psychological stress was the main cause of bruxism, 65.5% expressed their belief in the necessity of professional support for treatment.

Conclusion: In our study, the prevalence of bruxism in children was found to be 9%. Among the clinical examination findings, cheek hyperkeratosis and tooth wear were particularly highly influential in the diagnosis of bruxism. Although parental awareness was highly consistent with clinical findings, it was concluded that awareness of seeking professional help should be increased.

Keywords: Bruxism, tooth wear, hyperkeratosis, clinical examination, orthodontics

PP-9

Evaluation of the Prognosis of Surgical Miniscrew-related Teeth Using Cone Beam Computed Tomography

Eslem Ece İŞLER[1], Elifhan ALAGÖZ[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Oral, Dental and Maxillofacial Radiology, İstanbul, Türkiye

Introduction: This study aims to evaluate the prognosis of teeth associated with surgical miniscrews using cone beam computed tomography (CBCT) and to identify radiological factors, including bone characteristics, miniscrew-root distance, root contact, periodontal ligament changes, and periapical pathologies, that may predict complication risk.

Methods: In this retrospective study, CBCT records of patients who underwent surgery between 2020 and 2024 were reviewed. A total of 1,269 postoperative tomographic images from 423 patients were evaluated, and only scans obtained 6-12 months after the procedure were included. Patients without CBCT data within this interval or with diagnostic artifacts were excluded, resulting in the removal of 352 cases. The analyses assessed miniscrew-root distance, root contact, root resorption, periodontal ligament space changes, and apical granuloma presence. Miniscrews positioned 5 mm or more from the tooth were excluded. All data were systematically recorded in Microsoft Excel and analyzed using SPSS 28.0 for statistical evaluation purposes.

Results: A total of 460 data points were obtained from miniscrews closely related to teeth in 71 patients. Root contact was detected in 163 teeth (35.4%), resorption in 68 (14.8%), and apical granuloma in 33 (7.2%). No PDL changes were observed in 267 teeth (58.0%), while 168 (36.5%) showed up to 2 mm and 25 (5.4%) over 2 mm widening. Resorption was 4.4% without contact and 33.7% with contact.

Conclusion: CBCT is a reliable method for three-dimensional, high-resolution evaluation of miniscrew-dentoalveolar relationships. Reduced miniscrew-root distance increases the risk of periodontal ligament widening, root resorption, and apical granuloma, negatively affecting tooth prognosis. Therefore, CBCT-based radiological assessment before miniscrew placement is essential to minimize complications and ensure safer clinical outcomes.

Keywords: Surgical miniscrew, CBCT, prognosis, root resorption, periodontal ligament

PP-10

Evaluation of the Anxiety and Fear Levels of Dentistry Students Regarding Oral and Maxillofacial Surgery Procedures

Tolga KAPLAN[1], Selahaddin Emirhan BAŞYILDIZ[2], Ömer ÖZBEK[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, İstanbul, Türkiye

Introduction: The practice of oral and maxillofacial surgery is a source of stress for dentistry students due to the risks involved. The aim of this study is to determine how the anxiety and fear levels of dentistry students towards surgical procedures change according to their grade levels and to examine the relationship between this situation and the self-confidence gained through clinical and theoretical education.

Methods: The research was conducted on 199 volunteer students (144 females, 55 males) from Bezmialem Vakıf University Faculty of Dentistry. Data were collected using a 5-point Likert-type questionnaire prepared by the researchers by modifying the dental environment stress questionnaire, consisting of two sub-dimensions: "fear and anxiety towards surgical procedures" (12 items) and "self-confidence and awareness gained through education" (9 items). In the statistical analysis of the data, Shapiro-Wilk, Mann-Whitney U, and Kruskal-Wallis tests, as well as Spearman correlation analysis, were used ($p<0.05$).

Results: It was determined that the anxiety and self-confidence levels of the students in our study regarding surgical procedures did not follow a linear course throughout their education years, but rather fluctuated. When the mean surgical anxiety scores of the students were examined according to their grade levels; it was 2.77 in the 1st grade, increased to 3.01 in the 2nd grade, 2.76 in the 3rd grade, 2.67 in the 4th grade, and 2.82 in the 5th grade. Similarly, the self-confidence scores gained through clinical and theoretical education were measured as 3.64 in the 1st grade, 3.43 in the 2nd grade, 3.59 in the 3rd grade, 3.53 in the 4th grade, and 3.62 in the 5th grade. Although this trend between grades is clinically remarkable, it was not found to be statistically significant ($p=0.265$ for anxiety; $p=0.088$ for self-confidence). Furthermore, no direct correlation was found between the self-confidence levels gained through education and the anxiety levels of the students ($p=0.332$).

Conclusion: It was observed that the theoretical knowledge acquired during dental education had no effect on anxiety scores and self-confidence, and similarly, the clinical experience gained during the transition from pre-clinical to clinical stages did not have a reflective effect on students' anxiety and self-confidence. Accordingly, it is of great importance to add stress management training and simulation practices for complication management to dentistry curricula.

Keywords: Dental education, surgical anxiety, self-confidence, maxillofacial surgery, biostatistics

PP-11

Evaluation of Bezmialem Vakıf University Faculty of Dentistry Students' Approaches to "Sustainability in Dentistry" at Preclinical and Clinical Levels

Hilal AKSU[1], Evrim DALKILIÇ[2], Sümeyye KETEN[2], Özge PASİN[3]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry Department of Restorative, İstanbul, Türkiye

[3]University of Health Sciences Faculty of Medicine, Department of Biostatistics and Medical Information, İstanbul, Türkiye

Introduction: Sustainability includes practices that ensure the long-term viability of natural systems and plays a vital role in maintaining environmental, economic, and social well-being. Many materials and equipment used in dentistry negatively affect natural resources and limit sustainability. This study aims to evaluate the knowledge and attitudes of preclinical and clinical dental students regarding sustainability in dentistry through a survey.

Methods: The study was conducted among undergraduate students at Bezmialem Vakıf University. The minimum sample size was calculated as 243 participants with a 95% confidence level and 80% power. Data were collected using a 21-question, 5-point Likert scale questionnaire via Google Forms. Statistical analyses, including descriptive statistics and correlation analyses, were performed using SPSS (v28). Statistical significance was set at $p<0.05$.

Results: Results showed that 76.6% of students believe they separate waste in clinical and preclinical settings. Additionally, 83.7% think that using recyclable or sterilizable materials instead of single-use items benefits the environment. About 65.2% believe digital technologies reduce the use of impressions and chemicals. Furthermore, 78% support using composite and resin-based materials instead of amalgam due to environmental concerns. A total of 73.9% emphasize informing patients about preventive care, brushing techniques, and dietary habits for sustainable oral health. A strong correlation (0.961) was found between recycling knowledge and attention to waste separation.

Conclusion: Students demonstrate a good level of knowledge regarding sustainability in dentistry. Increased awareness of recycling is associated with greater attention to waste management practices.

Keywords: Sustainability, biomedical waste, waste management

PP-12

The Effect of pH Cycling on the Microhardness of Microhybrid Composit Resins

Şevval AMAÇ[1], Burcu OĞLAKÇI ÖZKOÇ[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Restorative Dentistry, İstanbul, Türkiye

Introduction: The aim of this study was to evaluate the changes in surface hardness of microhybrid composites subjected to pH cycling.

Methods: A microhybrid composite resin (Filtek Z250, 3M ESPE) was used in this study. A total of 20 disc-shaped resin specimens were prepared using Teflon molds (8×2 mm) and polymerized according to the manufacturer's instructions using an LED curing unit (Valo, Ultradent, USA) (1000 mW/cm^2). The samples were divided into two groups based on storage conditions: pH cycling and air (control). According to their groups, the specimens were stored in 20 mL solution in closed containers for 30 days, with 16 hours in remineralization solution and 8 hours in demineralization solution daily. Microhardness values were measured before and after storage in solutions and air using a Vickers microhardness tester from three different points on the upper surfaces of the specimens. Repeated measures analysis of variance was used for statistical analysis, and Bonferroni test was used for pairwise comparisons.

Results: Storage in air did not cause a significant change in surface microhardness. However, exposure to pH cycling resulted in a significant decrease in microhardness values.

Conclusion: pH cycling had a negative effect on the surface microhardness of microhybrid composite resin.

Keywords: Microhybrid composite resin, microhardness, pH cycling

PP-13

The Effect of pH Cycling on the Surface Roughness of Microhybrid Composite Resin

Mustafa Furkan ÖZBEBEK[1], Burcu OĞLAKÇI ÖZKOÇ[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Restorative Dentistry, İstanbul, Türkiye

Introduction: The aim of this study was to evaluate the changes in the surface roughness of microhybrid composite resin under intraoral pH conditions.

Methods: In this study, a microhybrid composite resin (Filtek Z250, 3M ESPE) was used. A total of 20 disc-shaped resin specimens were prepared using Teflon molds (8×2) and polymerized according to the manufacturer's instructions using an LED light-curing unit (Valo, Ultradent, USA) (1000 mW/cm2). The prepared specimens were randomly divided into two groups (n=10) according to storage conditions: a control group stored in air and a group subjected to pH cycling. The pH cycling was applied to simulate the oral environment, including demineralization and remineralization phases. Surface roughness (Ra) measurements of all specimens were performed from three different points on the upper surfaces using a contact profilometer (Marsurf M 300 C). Measurements were carried out at two different time points: 24 hours and 1 month. Surface roughness data were analyzed using two-way analysis of variance and Bonferroni tests ($p<0.05$).

Results: Storage in air and pH cycling did not cause a significant change in surface roughness.

Conclusion: pH cycling did not have any effect on the surface roughness of the microhybrid composite resin.

Keywords: Microhybrid composite resin, surface roughness, pH cycling, demineralization, remineralization

PP-14

Evaluation of the Mandibular Canal-root Relationship Using Panoramic Radiography: A CBCT-referenced Survey Study

Gaye PAMUKÇU[1], Selahaddin BAŞYILDIZ[2], Gaye Sezin ÖNAL[3]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, İstanbul, Türkiye

[3]Bezmialem Vakıf University Faculty of Dentistry, Institute of Health Sciences, Department of Oral and Maxillofacial Surgery, İstanbul, Türkiye

Introduction: Accurately evaluating the relationship between the mandibular canal and lower molar roots is critical to preventing complications during third molar surgeries. Rood's criteria are widely used for this assessment. This study aims to assess the diagnostic accuracy of oral and maxillofacial surgery residents and specialists when evaluating this relationship using only panoramic radiography, and to evaluate the impact of surgical experience on diagnostic accuracy.

Methods: The study included 88 participants, divided into three groups based on experience: junior residents (Group 1, n=54), senior residents (Group 2, n=20), and specialists (Group 3, n=14). Participants evaluated 10 panoramic radiographs to determine the relationship between the mandibular canal and the root. These radiographs were selected from patients who also had cone beam computed tomography (CBCT) data, which served as the gold standard for accuracy but was not shared with participants. Differences between groups were analyzed using the Kruskal-Wallis test.

Results: No statistically significant difference was found between the groups regarding the rate of correct identification (p=0.289). Similarly, no significant differences were detected for related-true (p=0.494), related-false (p=0.494), unrelated-true (p=0.836), or unrelated-false (p=0.902) evaluations. The mean accuracy scores were 4.91 for Group 1, 5.60 for Group 2, and 5.21 for Group 3.

Conclusion: Surgical experience does not significantly affect diagnostic accuracy when evaluating the mandibular canal-root relationship using panoramic radiography. These findings suggest that while Rood's criteria are easy to learn, their accuracy is limited. Panoramic radiography alone may have limited reliability; therefore, it should be supported by additional imaging such as CBCT in high-risk cases.

Keywords: Mandibular canal, panoramic radiography, CBCT, surgical experience, third molar

PP-15

Knowledge and Attitudes Regarding the Menopause-periodontal Disease Relationship Among Medical and Dental Students at Bezmialem Vakıf University

İrem YURDUSEV[1], Cansu Can YAŞAR[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye
[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Periodontology, İstanbul, Türkiye

Introduction: Menopause is a natural biological stage characterized by hormonal changes that may influence both systemic and oral health. This study aimed to evaluate the knowledge and attitudes of medical and dental students at Bezmialem Vakıf University regarding the relationship between menopause and periodontal disease.

Methods: This cross-sectional study included 295 medical and dental students from Bezmialem Vakıf University. Data were collected using a structured questionnaire administered via an online form (Google Forms). The questionnaire was designed to assess demographic characteristics, knowledge of menopause and periodontal diseases, and students' attitudes toward this relationship. Descriptive analyses were performed, and group comparisons were conducted using Pearson's chi-square test, the Fisher-Freeman-Halton exact test, and the Kruskal-Wallis test, with a p-value <0.05 considered statistically significant.

Results: A total of 295 students participated in the study (49.2% medical, 50.8% dental). Education on menopause was highest among sixth-year medical students but significantly lower among dental students ($p<0.001$). In contrast, education on periodontal diseases and knowledge of its association with menopause were significantly higher among dental students. Medical students, especially fifth-year students, showed lower levels regarding the relationship between menopause and periodontal diseases ($p<0.001$). Participants' attitudes were generally positive; however, they differed significantly across groups and were stronger among dental students ($p<0.05$).

Conclusion: Although students demonstrated a basic level of knowledge about menopause, awareness of its relationship with periodontal diseases was higher among dental students than medical students. These findings highlight the importance of strengthening interdisciplinary awareness of the relationship between menopause and oral health.

Keywords: Menopause, periodontal disease, oral health, medical students, dental students

PP-16

Evaluating the Effects of Experience on Dental Anxiety in Root Canal Treatment, Tooth Extraction, and Implant Treatments Among Inexperienced Patients: A Questionnaire Study

Mustafa Kamil KARAKUŞ[1], Selahaddin BAŞYILDIZ[2]

[1]*Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye*

[2]*Bezmialem Vakıf University Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, İstanbul, Türkiye*

Introduction: This study evaluates patients' anxiety levels regarding root canal treatments, tooth extractions, and dental implants, examining how demographic factors and past clinical experiences affect these anxieties.

Methods: A questionnaire was administered to 205 participants to gather demographic data, history of previous dental treatments, and procedure-specific anxiety levels. Statistical analyses included the Kruskal-Wallis test, Mann-Whitney U test, and Spearman correlation analysis.

Results: Gender significantly affected tooth extraction ($p=0.004$) and implant anxiety, but not root canal anxiety. Age created a statistically significant difference only in root canal treatment anxiety ($p=0.035$). Having a past history of root canal (mean=13-12), extraction (mean=14.5-13), or implant treatments (mean=15-16) did not cause a statistically significant difference in anxiety scores for the respective procedures ($p=0.336$, $p=0.112$, $p=0.693$). Additionally, a strong positive correlation was observed among the anxiety levels for all three treatments ($r=0.645$, $p<0.001$).

Conclusion: Demographic variables create minimal differences in specific dental anxiety types. Furthermore, previous experience with a specific dental procedure does not significantly alter the anxiety felt toward it. The strong positive correlation among treatment anxieties indicates that patients who are anxious about one procedure tend to approach others with high anxiety. These findings emphasize that anxiety management should adopt a holistic approach, regardless of the procedure type.

Keywords: Dental anxiety, root canal treatment, tooth extraction, dental implant, patient psychology

PP-17

Comparison of the Effects of Citric Acid, Cola, and Distilled Water on Surface Roughness (Ra, Rz) of Feldspathic Glass-ceramic Blocks

Mert MERAL[1], Şule Tuğba DENİZ[2]

[1]*Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye*
[2]*Bezmialem Vakıf University Faculty of Dentistry, Department of Prosthodontics, İstanbul, Türkiye*

Introduction: Increasing consumption of acidic beverages in daily diet threatens not only natural tooth structures but also the long-term clinical success of aesthetic restorations. Feldspathic ceramics, widely used in dentistry with computer-aided design (CAD)/computer-aided manufacturing (CAM) technology, are continuously exposed to such chemical challenges. This study aimed to comparatively evaluate the potential deteriorative effects of different acidic beverages (citric acid and cola) on the surface roughness of CAD/CAM feldspathic ceramic blocks.

Methods: Sirona CEREC feldspathic ceramic blocks were used. Specimens were standardized using a water-cooled micro-cut device. A two-step polishing protocol was applied to simulate clinical finishing, and surfaces were polished with EVE Diapol (blue, pink, gray/white) polishers. Samples were divided into three groups: citric acid (positive control), cola (experimental), and distilled water (negative control). Surface roughness values (Ra, Rz) were measured before and after procedures using a profilometer. Data were analyzed using appropriate statistical methods.

Results: Statistically significant differences were found between groups ($p<0.05$). Both citric acid and cola groups showed increased Ra and Rz values compared to distilled water. The highest increase was observed in the citric acid group, while cola also caused a significant increase. Minimal changes were observed in the distilled water group.

Conclusion: Acidic beverages significantly increase surface roughness of feldspathic ceramics by inducing erosive effects. This may negatively affect long-term restoration success and plaque retention. Clinically, patients' acidic beverage consumption habits should be considered for the longevity of CAD/CAM restorations.

Keywords: Feldspathic ceramic, surface roughness, citric acid, cola, CAD/CAM, profilometry

PP-18

Investigation of the Knowledge Levels of 4th-Year Dentistry Students Regarding Antibiotic Use in Endodontic Diagnosis and Treatment Processes

Taha AKTAŞ[1], Gamze NALCI ÇALIK[2]

[1]Bezmialem Vakıf University Faculty of Medicine, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Endodontics, İstanbul, Türkiye

Introduction: This study aimed to evaluate the knowledge level and clinical approaches of fourth-year dental students regarding systemic antibiotic use and antibiotic prophylaxis protocols in endodontic infections.

Methods: A total of 168 fourth-year dental students who had completed their preclinical education were included in the study. Participants completed a questionnaire assessing their tendencies to prescribe antibiotics based on specific endodontic diagnoses, drug preferences, and knowledge of prophylaxis protocols. Data were analyzed using SPSS 25.0 software. Descriptive statistics were used to summarize the data. Chi-square tests were applied to evaluate the association between antibiotic selection criteria, prophylaxis knowledge, and demographic variables (gender, type of university). A significance level of $p<0.05$ was considered statistically significant.

Results: Ninety percent of participants correctly identified the need for systemic antibiotic therapy in cases of acute apical abscess with diffuse swelling. However, a considerable proportion of students showed a tendency to prescribe antibiotics in vital conditions such as symptomatic irreversible pulpitis, where systemic antibiotic use is not indicated. This tendency was significantly associated with limited clinical experience ($p<0.05$). While 74% of the participants selected appropriate alternative agents in cases of penicillin allergy, 93% demonstrated accurate knowledge regarding infective endocarditis prophylaxis. No statistically significant differences were found between antibiotic preferences and demographic variables ($p>0.05$). The majority of students expressed the need for case-based antibiotic training prior to clinical practice.

Conclusion: Fourth-year dental students exhibit a strong theoretical foundation regarding the use of antibiotics in endodontics. However, to bridge the gap between theoretical knowledge and practical decision-making, and to minimize inappropriate antibiotic use, the integration of case-based training into the curriculum is recommended.

Keywords: Endodontics, fourth-year dental students, antibiotic prescribing, preclinical education, prophylaxis protocols

PP-19

Comparison of Bezmialem Vakıf University Dental Students' Opinions on Prosthodontics Before and After Clinical Training

Saliha Seray ÖZTÜRK[1], Gizem ŞAHİN[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Prosthodontics, İstanbul, Türkiye

Introduction: Preclinical and clinical training processes in dental education are fundamental stages that influence students' professional development and specialty preferences. This study aimed to evaluate students' opinions regarding these processes and the impact of these experiences on their career orientations.

Methods: The study included 4th and 5th year students studying at Bezmialem Vakıf University Faculty of Dentistry during the 2025-2026 academic year. An 11-question questionnaire evaluating preclinical and clinical training processes and specialization preferences was administered to 121 volunteer participants, and the data obtained were statistically analyzed.

Results: According to the analysis results, statistically significant differences were found in two areas. Firstly, in the evaluations related to the clinical training process, a significant difference was found in the questions regarding the adequacy of preclinical practices and their impact on specialization choices ($p<0.05$), with 5th-year students reporting more distinct and clear opinions based on clinical experiences. Furthermore, a significant difference was found between classes in the questions regarding the influence of clinical experiences on students' specialization choices ($p<0.05$), with 5th-year students expressing more positive opinions about choosing prosthetic dentistry as a specialization. These findings indicate that students' professional perceptions and preferences become more pronounced as the educational process progresses.

Conclusion: According to the results of our study, preclinical and clinical training processes are one of the determining factors for students' professional development and career planning (such as specialization choice).

Keywords: Dental education, preclinical training, clinical experience, career choice, dental students

PP-20

Antibiotic Preferences and Clinical Decision-making Processes of 5th-Year Dental Students in the Management of Endodontic Infections

Emre COŞKUN[1], Gamze NALCI ÇALIK[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye
[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Endodontics, İstanbul, Türkiye

Introduction: This study was conducted to evaluate the knowledge levels and clinical approaches of 5th-year Faculty of Dentistry students regarding systemic antibiotic use and prophylaxis protocols in endodontic infections.

Methods: One hundred six dental students in their clinical internship period were included in the study. The participants' tendencies to prescribe antibiotics in different endodontic diagnoses, drug preferences, and prophylaxis approaches in systemic diseases were questioned via a survey. Data analysis was performed using the SPSS 25.0 (IBM Corp., Armonk, NY, USA) software package. Participants' demographic characteristics and clinical responses were presented as numbers (n) and percentages (%). The Pearson chi-square test was used to evaluate the relationship between the antibiotic prescribing preferences based on endodontic diagnoses and the clinical internship experiences of 5th-year students. All findings were tested at a 95% confidence interval, and a value of $p<0.05$ was considered statistically significant.

Results: Ninety-four percent of the participants correctly supported the use of antibiotics in cases of "acute apical abscess with diffuse swelling". A statistically significant relationship was found between the correct determination of clinical diagnoses, rational antibiotic use decisions, and clinical internship experience ($p<0.05$). While amoxicillin+clavulanic acid was preferred at a rate of 78% as the first-choice antibiotic, clindamycin ranked first in case of penicillin allergy. It was observed that the variables of gender and university type did not create a statistically significant difference in drug selection criteria and prophylaxis knowledge ($p>0.05$). Furthermore, the vast majority of participants (84%) stated that receiving additional clinical pharmacology training before graduation is necessary for professional competence.

Conclusion: It was observed that 5th-year students have a high level of awareness in managing serious endodontic infections and successfully apply standard treatment protocols. It was concluded that the clinical internship process has a positive effect on the ability to limit unnecessary antibiotic use and establish correct indications.

Keywords: Endodontics, antibiotic resistance, clinical decision making, 5th-year dental students, rational drug use

PP-21

Assessment of Changes in the Gingiva Associated With the Menstrual Cycle Using a Cross-polarized Filter

Nursima KAYA[1], Sanubar SHAKILIYEVA[2], Şeyma KÖLE[2], Şadiye GÜNPINAR[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Periodontology, İstanbul, Türkiye

Introduction: Hormonal fluctuations during the menstrual cycle may induce vascular and inflammatory changes in periodontal tissues. Cross-polarized filtering (CPF) eliminates specular reflections and may enhance the objectivity of gingival color assessment. This study aimed to evaluate the diagnostic performance of CPF imaging in detecting menstrual cycle-associated gingival color changes.

Methods: Thirty-six systemically healthy female dental students with regular menstrual cycles were enrolled. All participants were non-smokers, reported no use of hormonal or systemic medications, and had no known systemic conditions. Inclusion criteria also comprised probing pocket depths ≤3 mm, absence of mouth breathing, and no history of restorative, endodontic, or prosthetic treatment in the anterior region. Clinical examinations were performed on days 2, 14, and 21 of the menstrual cycle. Standardized intraoral photographs were obtained both with and without CPF under controlled conditions. Gingival color was quantified using CIELAB color space parameters, and color differences (ΔE), including CIEDE2000 values, were calculated. Periodontal parameters, including plaque index, gingival index, bleeding on probing (BOP), clinical attachment level, and probing pocket depth, were recorded.

Results: No statistically significant differences were identified in ΔE or CIEDE2000 values among the evaluated menstrual phases ($p>0.05$). However, CPF-based image analysis demonstrated significantly greater reliability and sensitivity compared to non-filtered imaging ($p<0.001$). Periodontal parameters remained largely stable across all time points, although BOP values were higher on day 2 compared to the other phases.

Conclusion: Menstrual cycle-related hormonal variations do not appear to induce gingival color changes detectable by objective digital analysis in systemically healthy individuals. Although CPF enhances measurement precision and analytical objectivity, it does not reveal clinically meaningful phase-dependent differences in gingival color stability.

Keywords: Menstrual cycle, cross-polarized filter, gingival color analysis, CIELAB

PP-22

Evaluation of Temporomandibular Disorders in Dental Students Using the Fonseca Anamnestic Index

Öykü ÖZKAN[1], Gamzenur ÇİÇEK[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Denstistry, Department of Prosthetic Dentistry, İstanbul, Türkiye

Introduction: The aim of this study is to evaluate the prevalence and severity of temporomandibular disorders (TMD) among dental students using the Fonseca Anamnestic Index.

Methods: A total of 316 dental students (240 females, 76 males) from a private university's faculty of dentistry were included in the study. Data were collected via online surveys prepared through Google Forms. The Fonseca Anamnestic Index, consisting of 10 questions, was used to determine the TMD status of the participants. The obtained data were transferred to Microsoft Excel and classified as: no symptoms (0-15 points), mild TMD (20-40 points), moderate TMD (45-65 points), and severe TMD (70-100 points). Descriptive statistics and the chi-square test were used for data analysis.

Results: TMD of varying severities was detected in 78.5% (n=248) of the participants. According to the scoring, 46.5% (n=147) of the students had mild TMD, 24.1% (n=76) had moderate TMD, and 7.9% (n=25) had severe symptoms. Only 21.5% (n=68) of the participants showed no symptoms. Statistical analysis revealed that the prevalence and severity of TMD were significantly higher in female students compared to male students (p=0.001). No statistically significant relationship was found between the students' grade level and TMD severity (p=0.112).

Conclusion: It was determined that TM disorders have a considerably high prevalence among dental students, and female sex is a significant risk factor for these disorders. The lack of significant difference between grade levels suggests that the intense workload and stress at all stages of dental education lead to a similar risk of TMD. In light of these findings, clinical follow-up of students, especially those in the risk group, and the development of preventive approaches to increase TMD awareness within the faculty are recommended.

Keywords: Fonseca Anamnestic Index, TMD, dentistry students

PP-23

Evaluation of Oral and Dental Health Care in Children Aged 0-6 and Their Mothers Applying to Bezmialem Vakıf University Faculty of Dentistry

Lal ÖZTÜRK[1], Sarp KAYA[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye
[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Pediatric Dentistry, İstanbul, Türkiye

Introduction: Early childhood caries (ECC) is a highly prevalent, chronic infectious disease characterized by a multifactorial etiology and remains a major global public health challenge. Since biological, behavioral, and environmental risk factors play a collective role in its progression, evaluating these determinants is essential for developing effective preventive dental strategies. This study aims to evaluate the potential relationship between caries experience in children aged 0-6 years and their mothers' sociodemographic characteristics, oral hygiene habits, and specific oral health-related behaviors.

Methods: This cross-sectional and descriptive study included 35 child-mother pairs who presented for an initial dental examination at the Department of Pediatric Dentistry, Bezmialem Vakıf University, between March 12 and March 26, 2026. Intraoral examinations were performed visually in a clinical setting under reflector light on dry surfaces using mirrors and explorers. Caries experience was recorded via the dmft index following the 2013 World Health Organization Oral Health Assessment Manual. A comprehensive 15-question survey assessed maternal sociodemographics, oral hygiene habits, and children's nutritional and care patterns. Data were analyzed using chi-square, Fisher's exact tests, and Pearson correlation; significance was set at $p<0.05$.

Results: Results indicated that 51.4% of mothers were university graduates. ECC was detected in 88.6% of children, with dmft values ranging from 0 to 9. While 60% of mothers reported brushing teeth several times daily, 82.9% of children consumed sugary foods every day. Statistical analyses revealed no significant difference between ECC presence and maternal education ($p=0.302$), nighttime feeding ($p=0.710$), sugary food frequency ($p=0.546$), or meal counts ($p>0.05$).

Conclusion: The absence of statistically significant correlations may be attributed to the limited sample size. Future prospective studies with larger cohorts investigating broader biological and environmental risk factors are necessary to provide a more comprehensive understanding of ECC etiology.

Keywords: Early childhood caries, dmft index, oral hygiene, maternal attitudes, pediatric dentistry

PP-24

Correlation Between Panoramic Radiographic Risk Factors and CBCT Findings in the Relationship of Mandibular Third Molars with the Inferior Alveolar Nerve

Deniz YALAKI[1], Özge Serpil ÇAKIR[2], Doğan DOLANMAZ[2]

[1]Bezmialem Vakıf University Faculty of Dentistry, İstanbul, Türkiye

[2]Bezmialem Vakıf University Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, İstanbul, Türkiye

Introduction: To evaluate the diagnostic accuracy of panoramic radiographic signs described by Rood and Shehab in predicting the relationship between mandibular third molars and the inferior alveolar canal, using cone beam computed tomography (CBCT) as the reference standard.

Methods: This retrospective study included 199 patients with both panoramic radiographs and CBCT scans. Seven panoramic radiographic signs (darkening of the root, interruption of the white line of the mandibular canal, diversion of the canal, deflection of the root, narrowing of the root, narrowing of the mandibular canal, and bifid or dark root apex) were assessed as binary variables. The presence of contact between the mandibular third molar and the inferior alveolar canal was determined on CBCT. The diagnostic performance of each sign was evaluated using contingency table analysis, and associations were analyzed using chi-square or Fisher's exact tests. A cumulative score based on the number of present signs was analyzed using logistic regression and receiver operating characteristic analysis.

Results: Narrowing of the mandibular canal and bifid or dark root apex demonstrated the highest diagnostic performance, with perfect specificity and positive predictive value. Root narrowing and canal diversion were also significantly associated with CBCT-confirmed contact, although with low sensitivity. In contrast, commonly observed findings such as darkening of the root and interruption of the canal wall showed limited discriminative value. The cumulative number of radiographic signs was significantly associated with canal contact (odds ratio=4.32, 95% confidence interval: 2.38-7.82, $p<0.001$), with moderate overall diagnostic accuracy (area under the curve=0.687). A threshold of three or more signs provided high specificity but limited sensitivity.

Conclusion: Not all panoramic radiographic signs have equal predictive value. While certain findings are highly specific indicators of canal involvement, their absence does not exclude a close anatomical relationship. A cumulative, criterion-based approach may improve preoperative risk assessment and support more selective use of CBCT.

Keywords: Third molar, inferior alveolar nerve, panoramic radiography, CBCT, Rood and Shehab criteria, mandibular canal