

P01

PREVALENCE OF ORAL POTENTIALLY MALIGNANT DISORDERS AND AWARENESS ON ORAL CANCER AMONG DENTAL PATIENTS

Ahmad Moin N¹, Zulkifli S¹, Kallarakkal TG²

¹Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.

²Department of Oro-Maxillofacial Surgical & Medical Sciences, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.

Objectives: To determine the prevalence of OPMDs among dental patients with risk habits and their awareness towards early signs associated with oral cancer

Methods: This was a cross sectional observational study, carried out at the Faculty of Dentistry, University of Malaya. A conventional oral examination was conducted by the two investigators who were trained and calibrated prior to the survey. Participants were administered a questionnaire that was pre-tested prior to its use in a previous study. A total of 83 subjects were recruited into the study.

Results: Leukoplakia was the only oral potentially malignant disorder (OPMD) detected in our study with a prevalence of 10.8%. All patients diagnosed with leukoplakia were males ($P < 0.05$) and there was a significant association between the prevalence of OPMDs and risk habits. There was a general lack of awareness among smokers regarding misuse of alcohol as an aetiological agent for oral cancer. A significant proportion of our subjects who smoked were also not aware of early signs of oral cancer.

Conclusion: A strong association existed between the prevalence of OPMDs and risk habits such as tobacco smoking and alcohol misuse. Smokers exhibited decreased awareness regarding early signs of oral cancer as compared to alcohol users alone.

Key words: oral potentially malignant disorders, smoking, alcohol, leukoplakia, oral cancer awareness, mouth self-examination

P02

SATISFACTION SURVEY ON NEW INTEGRATED DENTAL CURRICULUM AT UNIVERSITY OF MALAYA

Ahmad Ikram A¹, Yap JM¹, Noor Hayati A²

¹Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.

²Department of Restorative, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.

Objectives: To study the satisfaction level of the first batch of students under this new curriculum who completed 5 years of studies and determine the association between clinical set-up of integrated curriculum, one stop centre and competency based clinical evaluation.

Methods: A total of 70 students were provided with a set of online validated questionnaire using Google Forms with most of the questions consisted of 5 points Likert scales to evaluate their satisfaction on this matter. The questionnaire constructed to explore students' satisfaction on the new curriculum made up of 5 domains: 1) clinical set-up; 2) continuous assessment and professional examination; 3) competency based clinical evaluation; 4) one stop centre service; and 5) their opinion on improvement and benefits of the integrated curriculum. The association between satisfaction on clinical set-up of integrated curriculum versus OSC service and association between satisfactions on competency based clinical evaluation versus OSC were determined using Pearson Correlation.

Results: Overall satisfaction recorded for clinical set up (52.9%), continuous assessment (15.4%), professional examination (56.4%), competency based clinical evaluation (20.4%) and OSC service (8.6%).

Conclusion: There are certainly weaknesses in the newly implemented integrated curriculum due to the low satisfaction level from the students especially on the continuous assessment and OSC service components. Improvement has to be made to increase the satisfaction level as well as produce high standard caring dental professionals to fulfil the mission of the faculty.

Key words: Integrated Curriculum; Multidisciplinary Education; Dental Education; Teaching and Learning; Competency-based Education; Personal Satisfaction.

P03

THE INFLUENCE OF ART THERAPY ON PAEDIATRIC DENTAL ANXIETY : A PRELIMINARY STUDY

Manan NM¹, Mohd Zahari N², Abd Ghafar A²

¹Department of Paediatric Dentistry & Orthodontics, Faculty of Dentistry, University of Malaya, Kuala Lumpur

²Faculty of Dentistry, University of Malaya, Kuala Lumpur

Objectives: To compare the art therapy techniques and identify their effectiveness in reducing fear and anxiety among pediatric dental patients

Methods: Eleven subjects (4 to 6 year old) were chose from the Pediatric Postgraduate Clinic, Faculty of Dentistry, University of Malaya based on the level of anxiousness before they seeing the dentist. The participation consent was obtained from the parents. The patient was introduced to 3 types of art therapy which are free drawing, play-doh and sticker and asked to choose one of them. For free drawing, they were given a drawing block and a non toxic crayon while for the play-doh, the subject was given a set of play-doh for clay moulding technique. For the story telling, the subject was given a paper and sticker and described how they feel. Each subject was given 15 minutes to complete each art therapy session. Participants completed 6 items of the Malay modified child dental anxiety scale (MCDAS) before and after the treatment. The Frankel scale was used to assess the level of anxiety of the patients during the treatment. Each patient need to complete 2 visits subsequently.

Results: There is no significant difference during the visit between pre and post while mean score for Frankl scale is higher in visit 2. However, there is no significant difference between the pre-post difference during the first and second visit.

Conclusion: Free drawing and playdoh can reduce the anxiety of patient during dental treatment according to the Frankl score. However, there is no significant difference between the effectiveness of art therapy in both visit due to small sample size. The most favourable art therapy was play-doh technique.

Keywords: MCDAS, Frankl Scale, Art therapy

P04

SATISFACTION OF PATIENT IN UNDERGRADUATE PERIODONTAL CLINIC AT UNIVERSITY OF MALAYA

Abdul Ghani M¹, Mohd Zaki MH¹, Cheah CW²

¹Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.

²Department of Restorative Dentistry, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.

Objective: To evaluate the level of satisfaction of patients treated in the undergraduate Year 4 and Year 5 of University of Malaya.

Methods: The subjects were patients treated in the Year 4 periodontology clinic (Polyclinic B) (n=38) and Year 5 periodontology clinic (Polyclinic C) (n=30). Data was gathered using a questionnaire which consist of 4 components namely appointment facilities, infrastructure and basic facilities, behaviour of students dental clinician, and quality and efficiency of treatment provided.

Results: The results show that for appointment facilities the level of satisfaction was almost 80%; for infrastructure and basic facilities the satisfaction was more than 85%; for behavior of students dental clinician the level of satisfaction was more than 90% and for quality and efficiency of treatment provided the level of satisfaction was more than 60%. When all the components were compared between patients treated in Polyclinic B to patients treated in Polyclinic C, there was no statistically significant difference ($P>0.05$).

Conclusion: In conclusion the quality of treatment provided in the undergraduate Year 4 periodontology clinic and Year 5 periodontology clinic of University of Malaya is the same.

Keywords: Patient satisfaction, Periodontal treatment, Undergraduate students, Quality of the treatment, Facilities and Infrastructure, pain.

P05

E-LEARNING IN DENTAL EDUCATION: PERCEPTION OF UNDERGRADUATE DENTAL STUDENTS IN MALAYSIA

Ahmad NA¹, Ahmad Fauzi NA¹, Wey MC²

¹Faculty of Dentistry, University of Malaya, Kuala Lumpur

²Department of Paediatric Dentistry and Orthodontics, Faculty of Dentistry, University of Malaya, Kuala Lumpur

Objectives: The use of e-learning in teaching and learning of Dentistry has increased with nationwide implementation in all institutions of higher teaching. This study evaluates the perceived knowledge, usage and the perception of dental students on three teaching and learning methods and assesses the scope and limitations of e-learning in Dental education.

Methods: A survey using self-filled validated questionnaires was conducted at four universities (2 public and 2 private). Out of targeted 600 questionnaires 577 (96.2%) were completed and returned.

Results: Majority of dental students have an average perceived knowledge in traditional, hybrid and e-learning with frequent usage of a combination of traditional and e-learning methods. Hybrid was perceived as the most practical, most preferable and most effective way to produce better dentists. Majority agreed (>90%) that e-learning contributes to the improvement in Dental Education as it encourages learning out of school-time and saves time. E-learning was mostly used in PowerPoint presentations, lectures and clinical demonstrations. E-learning alone and by itself was perceived to be possible in activities like tests, quizzes, tutorials, seminars and discussions but not in dental treatments.

Conclusion: As a whole, dental students know and use e-learning frequently, but they preferred a combination of hybrid method as e-learning by itself is not applicable for certain teaching and learning areas in Dental education.

Keywords: E-Learning; Dental Education; Hybrid method; Dentistry; Teaching method; Perception

P06

ORAL HYGIENE PRACTICES AND BOTTLE FEEDING PATTERN AMONG CHILDREN WITH EARLY CHILDHOOD CARIES

Bahari N¹, Zainal Abidin FN¹, Mani SA²

¹Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia

²Department of Paediatric Dentistry and Orthodontics, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.

Objectives: The purpose of this study was to assess the association of bottle feeding pattern and oral hygiene practices with the severity of caries among 2 to 5-year-old children with Early Childhood Caries (ECC).

Methods: This cross-sectional study was carried out on children with ECC attending the dental clinic at University of Malaya. The parents or guardians were interviewed for the bottle feeding pattern and oral hygiene practices followed by a clinical dental examination of their children with ECC. Data analysis was done with Fisher's Exact Test.

Results: Out of 32 children, 69% had severe early childhood caries with mean dft of 8.88. In this study, 87.5% of the subjects had a history of bottle feeding, with 53.1% still being bottle fed at the time of the study. Current bottle feeding habits was found to be statistically significant with the severity of caries ($P=0.021$). Around 50% of the children took 10 to 30 minutes to complete one feed from the bottle. About 66% of the children consumed pre-chewed rice and/or shared spoons or feeding utensils with their parents or siblings but there was no significant association with the severity of caries ($p=1.00$)

Conclusion: On account of its association with ECC, bottle feeding was significantly associated with the severity of caries among our study population. Although vertical and horizontal transmission of bacteria is a risk factor for ECC, it did not show any significant association with ECC in this study.

Keywords: Early Childhood Caries, dental caries, bottle-feeding, nursing bottle, feeding pattern, oral hygiene practices

P07

ASSESSMENT OF KNOWLEDGE AND AWARENESS ABOUT BISPHOSPHONATE INDUCED OSTEONECROSIS OF JAWS AMONG DENTIST AND PHYSICIANMohd Sufian NHA¹, Shahrir S¹, Aung LO²¹Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.²Department of Oral and Maxillofacial Clinical Sciences.

Objectives: To evaluate the knowledge of Bisphosphonate Induced Osteonecrosis of Jaws (BIONJ) among dentist and physician and to assess their awareness in providing appropriate treatment and preventive measures to patient exposed to bisphosphonates.

Methods: A set of closed questionnaires were distributed to a total of 56 respondents from Faculty of Dentistry University Malaya, University Malaya Medical Centre and government health clinics in Klang Valley. The questionnaires were divided into three parts. First part includes demographic and professional characteristics, second part includes questions on the respondents' level of knowledge regarding BIONJ and the third part includes awareness of respondents in preventing and providing appropriate treatment.

Results: In knowledge assessment, 56.8% of dentist and 63.8% of physician answered correctly. As a preventive measure, majority of the dentist (63.9%) would treat patient taking bisphosphonate differently. In providing appropriate treatment to patient on bisphosphonate therapy, 75% of the dentists were aware of the consequences of bisphosphonate. However, only 38.9% of them were aware of the guideline for treatment of these patients. Concerning physician awareness, 100% of them were aware of the consequences of bisphosphonate. 63.2% were aware of the guideline for treatment of patient taking bisphosphonate. 42.1% of the physician never recommended dental assessment prior to bisphosphonate therapy.

Conclusion: Majority of them has average level of knowledge regarding BIONJ. Most of the dentist and physicians has awareness on BIONJ. However, they did not implement the appropriate treatment and preventive measure in management of the patient as recommended in guideline by American Association of Oral and Maxillofacial Surgeon 2014.

Keywords: assessment and knowledge, BIONJ, BRONJ, osteonecrosis of jaw, dentist, physician, bisphosphonate induced osteonecrosis, bisphosphonates

P08

TRANSLATION AND VALIDATION OF A MALAY VERSION OF THE PSYCHOSOCIAL IMPACT OF DENTAL AESTHETIC QUESTIONNAIREShahidan SSZ¹, Mohd Ali SF¹, Wan Hassan WN², Mohd Yusof ZY³¹Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia²Department of Paediatric Dentistry and Orthodontics, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.³Department of Community Oral Health and Clinical Prevention, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia

Objectives: The study aimed to develop and test the validity and reliability of Malay version of The Psychosocial Impact of Dental Aesthetics on Quality of Life Questionnaire (PIDAQ) in Adolescents.

Methods: The questionnaire was translated to Malay version, pilot study was done on a samples of 27, 13-17 year old subjects and the questionnaire was back translated to English. The finalised questionnaire consisted of Malay-PIDAQ version together with Perception of Occlusal Scale (POS) and Aesthetic Component of Index of Orthodontic Treatment Need (IOTN-AC) were then completed by 500 subjects from three schools. Interviewer perceived POS and IOTN-AC were also included. 30% samples were asked to answer the PIDAQ component again after 2 weeks.

Results: based on the confirmatory factorial analysis, the result show goodness of fit of the observed data (CIF> 0.9 and RMSEA<0.08). The items in PIDAQ shows inter-relatedness (Cronbach> 0.7) by using internal analysis. They there are statistically significant association between the variables with the different degree of self and interviewer-perceived POS and IOTN-AC within different age groups. Temporal stability shown that the questionnaire is stable and has a cross cultural adaptation (ICC> 0.8).

Conclusion: This study indicated that the Malay-PIDAQ in adolescence index is a valid and has a very similar internal structure and psychometric properties to those of the original questionnaire and demonstrate its validity for use with Malaysian adolescence.

Keywords : psychosocial impact, adolescence, orthodontic, dental aesthetic.

P09

BOND STRENGTH OF COMPOSITE CINGULUM REST SEAT USING DIFFERENT ADHESIVE SYSTEMSChok NL¹, Lam WL¹, Razak AAA²¹Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.²Department of Restorative Dentistry, Faculty of Dentistry, University of Malaya, 50603 Kuala Lumpur, Malaysia.

Objectives: This study aimed to compare the shear bond strength of composite cingulum rest seat when different adhesive systems, namely 2-steps etch-and-rinse Single Bond 2 adhesive, 2-steps self-etch Optibond Versa and multimode Single Bond Universal are used.

Methods: Fifty-four mandibular canine teeth were collected and divided into 3 groups of 18 specimens each. Cingulum rest seats were bonded onto lingual tooth surface using Group A Single Bond 2, Group B Single Bond Universal and Group C Optibond Versa. Dimension of rest seats were standardized. All specimens were subjected to a mechanical shear assay using Universal Testing Machine at a crosshead speed of 0.5mm/min using a flat jig. Data obtained were transformed from Newtons into Megapascal(MPa), ($1\text{N/mm}^2 = 1\text{MPa}$) and analysed by one-way ANOVA followed by the Tukey post hoc test at the significance level of $\alpha = 0.05$.

Results: Single Bond 2 adhesive displayed the highest mean shear bond strength values, followed closely by Optibond Versa and lastly, Single Bond Universal. Single bond 2 and Optibond Versa showed statistically significant higher shear bond strengths in comparison to Single Bond Universal ($P < 0.001$), however there is no statistical significant differences in shear bond strengths between Single Bond 2 and Optibond Versa ($P > 0.05$).

Conclusion: All three adhesive systems can withstand the average maximum mastication force of a partially dentate person with Single Bond 2 and Optibond Versa giving stronger bonds.

Keywords: Adhesives; Shear strength; Dental Abutments; Materials testing; Optibond; Single bond

P10

A CLINICAL STUDY OF LESION-ACTIVE VERSUS LESION-FREE PATIENTS WITH ORAL LICHEN PLANUS AND/OR ORAL LICHENOID REACTIONS

Foo SY¹, Lee WY¹, Goh YC², Siar CH²

¹Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.

²Department of Oro- Maxillofacial Surgical & Medical Sciences, Faculty of Dentistry, University of Malaya, 50603 Kuala Lumpur, Malaysia.

Objectives: To determine and compare the demographic and clinical characteristics including medical status and other co-morbidities, between lesion-active and lesion-free patients diagnosed with oral lichen planus/lichenoid reactions (OLP/OLR).

Methods: Subjects comprised 20 diagnosed OLP/OLR patients who attended the Oral Medicine Clinic at the Faculty of Dentistry, University of Malaya for follow-up appointments/management [Ethics approval No. DF OS1503/0016(U)]. Inclusion criteria for case selection were histologically confirmed OLP/OLR diagnosis with complete clinical and pathology records. Respondents who consented were interviewed according to a pre-designed questionnaire, and clinical examination was carried out. All these were conducted under the supervision of Oral Medicine specialists. OLP/OLR was diagnosed according to internationally established criteria. In patients with active OLP/OLR lesions, the clinical forms and anatomical distributions were recorded. Clinical photographs were obtained with patients' consent.

Results: The cohort consisted predominantly female (70%) and Chinese (45%) patients, with an age range of 26-79 years (mean, 56.86 years). Fifteen (75%) patients presented with active OLP/OLR lesions, the remaining 5(25%) were lesion-free. The lesion-active group comprised 3(15%) males and 12(60%) females whereas the lesion-free had 3(15%) males and 2(10%) females. Reticular LP was the most common type (60%) and the gingiva was the most prevalent site (45.65%). Social habits, medical histories and medications were not significantly different between these two groups.

Conclusion: Present findings suggest that demographic parameters, lifestyle and co-morbidities do not influence disease pattern and severity of OLP/OLR.

Keywords: Oral Lichen Planus, Oral Lichenoid Reaction, Demographic Profile, Clinical Features, Lesion-Free vs Lesion-Active

P11

SUCCESS RATE OF FLAPS IN RECONSTRUCTION OF ORAL CANCER SURGERY IN FACULTY OF DENTISTRY, UNIVERSITY OF MALAYA

Suni K¹, George DC¹, Shanmuhasuntharam P²

¹Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.

²Department of Oro-Maxillofacial Surgical & Medical Sciences, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia

Objectives: To assess the success rate of flaps used in the oral and maxillofacial reconstructions following oral cancer surgery in Faculty of Dentistry, University of Malaya.

Methods: Records of patient's folders that had undergone reconstruction using flaps following oral cancer surgery from the Department of Oro-Maxillofacial Surgical and Medical Sciences were reviewed. A total of 32 folders within the year 2000-2015 have been obtained from the faculty. Patient who had oral cancer surgery without reconstruction with flap were excluded from this study. Each folder was reviewed and all the necessary data were recorded systematically using a form. The demographic information, complete medical history, diagnosis of the patients, procedures done, date of surgery, type of flaps used in reconstruction, outcome of the flaps and salvage operation have been recorded and analyzed.

Results: The most common flap used for oral and maxillofacial reconstruction following oral cancer surgery are anterolateral thigh flap and radial forearm flap. The success rate of flap reconstruction is 87.5% with failure rate of 12.5%. 21.9% of cases develop postoperative complications.

Conclusion: The success rates in reconstruction with flap after oral surgery in Faculty of Dentistry, University of Malaya is high.

Keywords: flap failure, reconstructive surgical, oral cancer, free flap

P12

ASSESSMENT OF EROSION WEAR LESIONS AMONG GASTRO-OESOPHAGEAL REFLUX DISEASE (GORD) PATIENTS IN UNIVERSITY MALAYA MEDICAL CENTRE (UMMC)

Abd Kamar SN¹, MZalani NAN¹, Sukumaran P², Vaithilingam RD²

¹Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.

²Department of Restorative Dentistry, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.

Objectives: To assess the prevalence of erosive wear lesions in GORD patients in UMMC, their perception on erosive wear and treatment needs and their dietary habits.

Methods: 11 test subjects, with confirmed GORD, (50.6 years \pm 16.6) and 20 control subjects (33.7 years, \pm 7.6) participated in this study. Basic Erosive Wear Examination index was used to assess prevalence of erosive wear lesions using 4 ordinal scales (0-3). All participants also completed a validated questionnaire assessing knowledge of erosive wear, perception regarding treatment for erosive wear and dietary behaviour.

Results: The erosive wear lesions were more prevalent in GORD patients and 68% of these lesions were found on the palatal surfaces of 551 tooth surfaces assessed in test group. 6% of the palatal lesions had a BEWE score of 2. There were no BEWE score 3 reported on any of the surfaces in both groups. Large percentage of subjects in test (63.7%) and control (75.0%) groups did not have much knowledge on symptoms of erosive wear lesions and 45.5% of GORD subjects thought that erosive wear was equivalent to dental caries. Snacking was not popular amongst GORD patients (45.5%) and these patients (63.6%) mainly preferred to consume fruits at least once or several times a day while none consumed any form of carbonated drinks.

Conclusion: Erosive wear lesions in this sample population, was associated with intrinsic regurgitated acid rather than extrinsic acids from diet.

Keywords: GORD; erosive wear; BEWE score; dietary behaviour; prevalence.

P13

AESTHETIC OUTCOME OF CLEFT LIP AND PALATE TREATMENTChong LY¹, Tai TS¹, Ismail SM²¹Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.²Department of Oro-Maxillofacial Surgical & Medical Sciences, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.

Objectives: The objective of this study is to evaluate patient's satisfaction with their smile aesthetics after standard surgical repairs of complete cleft lip and palate. Second, we want to specifically identify the part with the best and worse outcome. This study also aims to investigate factors contributing to the aesthetic outcome.

Methods: A questionnaire survey on patients' satisfaction with their smile aesthetics was conducted. Respondents were required to look into a specially designed mirror to focus their evaluation on the specific area of the face. Study population consisted of complete unilateral and bilateral cleft lip and palate patients, 13 years and above, who had completed all standard surgical repairs for complete clefts.

Results: The mean satisfaction level of cleft lip and palate patients with their smile aesthetics is average (score 5.9). There is an even distribution of patients who rated their best and worse outcome based on nose, lip and teeth appearance. There is no significant difference in satisfaction level between genders, age, types and number of surgeries.

Conclusion: Majority of respondents have average satisfaction with their smile aesthetics. Patient's satisfaction with their smile aesthetics after standard cleft surgical repairs is not influenced by gender, age, types and number of surgeries. From this study, we conclude that smile aesthetic is a subjective measurement and cannot be considered as an indicator for successful surgical outcome in standard cleft lip and palate surgeries.

Keywords: cleft lip and palate, aesthetics, dental, patient satisfaction, face

P14

BIOMECHANICAL CHARACTERISTICS OF COLLAGEN FIBRILS OF HUMAN FREE GINGIVAL TISSUES- ATOMIC FORCE MICROSCOPE STUDYChang SV¹, Ooi XD¹, Radzi Z², Ismail SM³, Rahman MT⁴¹Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.²Department of Paediatric Dentistry & Orthodontics, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.³Department of Oro-Maxillofacial Surgical & Medical Sciences, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.⁴Dean's Office, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.

Objectives: To evaluate the architecture and biomechanical properties of human free gingiva collagen fibrils using Atomic Force Microscope (AFM).

Methods: Ethical approval was obtained prior to the conduct of the study (DFCD1509/0065 (U)). 3mm x 3mm healthy human free gingival tissues were taken from the participants (n=7) using disposable biopsy puncher (Accu sharp blade, India) and stored in 0°C Freezer. The tissue was sectioned to a thickness of 10µm using high profile microtome blade (Leica 818, Germany) and cryostat (Leica CM1850UV, United Kingdom). The sample was analysed using AFM (Nanowizard® 3, JPK Instruments, Germany) at room atmosphere. All images and force spectroscopy data were processed and analyzed using JPK SPM Data Processing software (JPK Instruments, Germany). The relationship between the measured parameters and the Young modulus was analysed using Spearman correlation test using SPSS version 22.

Results: The collagen fibrils of the human free gingival tissues appeared to be stacked in basket weave like structure. The mean value of free gingival collagen fibrils width and the length of D-periodicity were $106.71 \pm 11.18 \text{ nm}$ and $65.82 \pm 3.04 \text{ nm}$ respectively. The Young's modulus of collagen fibrils for human free gingival tissue at overlap region was $212.88 \pm 242.58 \text{ MPa}$, whereas at the gap region was $207.00 \pm 230.71 \text{ MPa}$. There was statistically significance in the linear relationship between Young's modulus of overlap and gap regions using Spearman correlation.

Conclusion: The healthy human free gingiva collagen fibrils appeared in specific orientation and architecture. The Young's moduli of collagen fibrils for human free gingival tissue at different regions were found to be comparable.

Keywords: Collagen fibrils, Human free gingival tissues, Young's Modulus, Atomic Force Microscopy

P15

THE COMPARISON OF POSITION OF LINGULA BETWEEN NORMAL MANDIBLE AND PROGNATHIC MANDIBLELiew YS¹, Ng YQ¹, Ismail SM¹, Wan Hassan WN², Nambiar P³¹Department of Oral Maxillofacial Surgery, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia²Department of Paediatric Dentistry & Orthodontics, Faculty of Dentistry, University of Malaya³Department of Diagnostic & Integrated Dental Practice, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia**Objectives:** To compare the position of lingula between prognathic and normal mandible in UMMC as an index for orthognathic surgeries and inferior alveolar nerve block.**Methods:** This retrospective study was approved by the Medical Ethic Committee, Faculty of Dentistry, University of Malaya. 30 Digital dental panoramic tomographs each from normal and prognathic mandible groups were used to compare the position of lingula in relation to ramal landmarks including anterior border and posterior border of ramus of mandible, sigmoid notch and occlusal plane on Syngo Imaging software.**Results:** The lingula was located at an average of 15.61mm in normal mandible and 16.55mm in prognathic mandible from the posterior border of mandible. Distance from lingula to sigmoid notch is 15.62mm and 16.02mm in normal mandible and prognathic mandible respectively. Lingula was found to be 13.5mm and 15.26mm from occlusal plane in normal and prognathic mandible respectively. The mean distance from lingula to anterior border of ramus of mandible is 19.78mm in normal mandible and 18.22mm in prognathic mandible. Lingula in prognathic mandible is located more anteriorly compared to normal mandible.**Conclusion:** There is significant difference in the position of lingula in relation to anterior border of ramus of mandible with lingula located more anteriorly in prognathic mandible compared to normal mandible.**Keywords:** lingula, mandibular foramen, orthognathic surgery, inferior alveolar nerve block, prognathic mandible, ramus.

P16

TO EVALUATE THE EFFICACY OF WHITENING DENTIFRICES IN REMOVING EXTRINSIC STAINS – IN VITROMohd Razif NS¹, Sarajuddin MN¹, Pushparajan S², Swaminathan D²¹Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.²Department of Restorative Dentistry, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.

Introduction: The study is aimed to evaluate the efficacy of whitening dentifrices in removing extrinsic stains and to compare the different commercially available whitening dentifrices (test group) with a non-whitening dentifrice (control group) in vitro.

Methods: 40 extracted premolars were collected, cleaned and stained with Chlorhexidine-tea model. At baseline, the staining was standardized, measured using Lobene stain index. After the teeth were cleaned using whitening dentifrices and non-whitening dentifrice according to their four groups of dentifrices respectively, the stain was measured again using Lobene stain index.

Results: There was a significant reduction in stains for all teeth in whitening and non-whitening dentifrices but there was a variation. The mean for test dentifrices showed significant stain removal when compared to control dentifrice.

Conclusion: Whitening toothpastes significantly removed the extrinsic stains as measured by Lobene stain index. With the continued interest in tooth whitening by consumers, together with continued research in tooth color and extrinsic stain, these will combine to make the further development of next generation tooth whitening products a reality and benefit to the field of aesthetic dentistry.

Key words: extrinsic stains, stain removal, tooth whitening, dentifrice

P17

TEMPOROMANDIBULAR DISORDERS AND ORTHOGNATHIC SURGERYKhor KX¹, Loh YT¹, Kadir K²¹Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.²Department of Oro-Maxillofacial Surgical and Medical sciences, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.

Objectives: This retrospective study aimed to determine: (1)The prevalence of temporomandibular disorder (TMD) secondary to orthognathic surgery (OGS) in various types of dentofacial deformities. (2)To access the relationship of new onset of TMD in different type of OGS to pain-related TMD and intraarticular TMD. (3)To evaluate the chronic facial pain, temporomandibular joint(TMJ) function and masticatory efficiency after OGS.

Methods: A total of 26 patients who treated with OGS in University Malaya Medical Centre, Kuala Lumpur from January 2005 to June 2015 agreed to participate. The subjects had either undergone bilateral sagittal split ramus osteotomy (BSSRO) alone or bimaxillary osteotomy (BIMAX). All subjects were assessed using Diagnostic Criteria for Temporomandibular Disorder (DC/TMD). Data collected from patients' record showed absence of TMD at presurgical stage.

Results: The present study showed 42.3% of 26 patients experienced TMD after OGS in various type of dentofacial deformities. There were 4 BSSRO patients and 7BIMAX patients developed new onset of TMD. 19.2 % of subjects presented with post-operative facial pain, 30.8 % had limitation in mastication, 19.2 % experienced limitation in mobility of the jaw and 11.5% experienced limitation in verbal and emotional commences.

Conclusion: There were no association between prevalence of TMD secondary to OGS in various type of dentofacial deformities. Nevertheless, no association of new onset of TMD with different types of surgery was shown. Minority of the patients suffered chronic facial pain and jaw function limitation after OGS were noted.

Key words: Temporomandibular joint disorder, orthognathic surgery, dentofacial deformities, facial pain, jaw, orthognathic

P18

KNOWLEDGE AND ATTITUDES OF DENTAL STUDENTS ON HIV/AIDS AT UNIVERSITY MALAYA

Zahari N¹, Mohd Noor NH¹, Ab-Murat N², Razak IA²

¹Faculty of Dentistry, University of Malaya, Kuala Lumpur.

²Department of Community Oral Health and Clinical Prevention, Faculty of Dentistry, University of Malaya, Kuala Lumpur.

Objectives: The purpose of this cross- sectional study was to assess the level of knowledge of and attitudes towards HIV/AIDS patients among third year (junior students) and fifth year (senior students) dental students at University of Malaya.

Methods: The study instrument comprised of a self-administered questionnaire on knowledge of HIV/AIDS and attitude towards provision of oral health care to HIV/AIDS patients.

Results: The overall response rate was 100%. The female: male ratio of respondents was approximately 8:2. The mean knowledge and attitude scores were 67.1% (good) and 77.6% (positive) respectively. Regarding the oral manifestation of HIV, oral candidiasis (92.4%) and necrotizing ulcerative gingivitis (81.4%) were most commonly identified by the students whereas salivary gland diseases (26.2%) was the least identified.

Conclusion: Although the level of knowledge and attitudes regarding HIV/AIDS patients in the present study were acceptable, the existing dental curricula can be reviewed in order to enhance the knowledge and further improve the attitudes of dental students concerning HIV/AIDS patients.

Keywords: Dental students, knowledge, attitudes, HIV/AIDS