

5TH

DENTAL STUDENTS' SYMPOSIUM 2015



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Content	Page
Welcome Speech by Deputy Vice Chancellor Academic & International	2
Message from Dean	3
Message from Chairperson	4
Programme Tentative	5
Organising Committee	6
Student Committee	7
List of Undergraduate Oral Presentations	10
List of Postgraduate e-Poster Presentations	12
List of Table Clinics Competition	12
List of Poster Presentations: Educational Poster Competition	13
Abstract:	
* Undergraduate Oral presentation	17
* Postgraduate e-Poster presentation	36
Acknowledgements	40





Assalamualaikum and Salam 1 UiTM,

It gives me great pleasure to once again be invited to officiate the Dental Students Symposium. I have watched this event grow and mature over the past five years and it has indeed been an enriching experience for me.

The variety of activities conducted throughout the symposium and pre-symposium signify the involvement of all students and faculty members and it certainly provides a platform for UiTM to expand our horizons in the field of research. It is my hope that winners of this symposium will be able to represent us at the national and international arena with great success.

I would also like to take this opportunity to welcome all the delegates from Indonesia and India who have taken great efforts to participate and contribute to the event. We are also honoured to commemorate this function by the launching of the Dental Faculty's inaugural journal '*Compendium of Oral Sciences*'.

Congratulations to the committee and kudos to the Faculty of Dentistry under the guidance of a visionary Dean for ensuring that the symposium continues to be a landmark event every year since it was introduced 5 years ago.

Thank you.

Prof Dr Azni Zain Ahmed

Deputy Vice Chancellor (Academic & International)
Universiti Teknologi MARA



Assalamualaikum and A Very Good Day

This time of the year always bring joy and anticipation to my heart as the Student's Symposium represents not only the talent and knowledge of the budding future dentists, but it almost like an annual family event. Our aim has always been to nurture a well-rounded graduate who is not only able to perform his/her duty as a dentist but become a future leader and contribute to the society.

The event this year is very special as we will witness the collaboration signing with two international universities which are Coorg University, Karnataka, India and Universitas Gadjah Mada, Indonesia. We are also blessed this year as we invite you to join us in launching our first scientific journal , Compendium of Oral Sciences and a number of books publish by our own faculty. Besides the usual programme we had in the previous year, this time we also have debate competition with the objectives of developing critical thinking and public speaking skills among the students. I would like to say welcome to international delegates from Universitas Gadjah Mada, Universitas Indonesia, Coorg Dental Institute and Manipal College of Dental Science at Mangalore who had travelled from far to participate and grace our event.

I would like to record my appreciation to Prof Dr. Azni Zain Ahmed who has graciously agreed to officiate the symposium. Special thanks also to the sponsor as without the financial support, the symposium will not be able to run successfully. Last but not least, I would like to thank the organizing committee, led by Dr. Siti Mariam Ab Ghani who have worked around the clock to ensure the success of this programme.

Good luck to all the participants and wishing you a successful journey and enriching experience throughout this symposium.

Thank You.

Professor Dr Mohamed Ibrahim Abu Hassan
Dean
Advisor, The 5th Dental Student Symposium
Universiti Teknologi MARA



Assalamualaikum wbt.

Greetings and Selamat Datang,

As Chairman of the committee, I would like to extend a very warm welcome to all participants especially to our invited international delegates to the 5th Dental Student Symposium 2015, Universiti Teknologi MARA, Malaysia.

On this one-day event, there will be a comprehensive scientific programme with numerous competitive activities namely the Table Clinic Competition, Video Competition, Poster Competition with the theme 'Patient Education', Oral Scientific Presentation Competition for the undergraduate students' research and e-Poster Presentation Competition for the postgraduate students' research. Furthermore, this year we are introducing a new twist in our scientific symposium activity that differ from the norm; the Debate Competition among the undergraduates.

As duly proposed by our confounding Dean, Professor Dr Mohamed Ibrahim Abu Hassan, it is hoped that this scientific debate will enable the undergraduate students to converse confidently and intelligently in their professional careers hereafter. Subsequently, our passion to coordinate this Debate Competition is commonly shared by one of the private company, that had graciously offered their sponsorship and had envisioned to bring this Debate Competition to the national level.

This symposium provides golden opportunity for the dental students to gain valuable experience that will enhance their knowledge in research, enhance their communication skills and promote interaction with other affiliates who have similar interests. The participation from international colleagues will foster good relationships among the researchers and propounds friendly competitive spirit that drives innovative scientific research thinking.

Pronounced messages for all; impel the future through our knowledge in research and innovation and foster closer ties with our international colleagues. This is the aim and sincere hope for this symposium, thus please join us to make this a reality. On behalf of the organizing committee, I hope that all of you will have a fruitful discussion and collaboration during this symposium day.

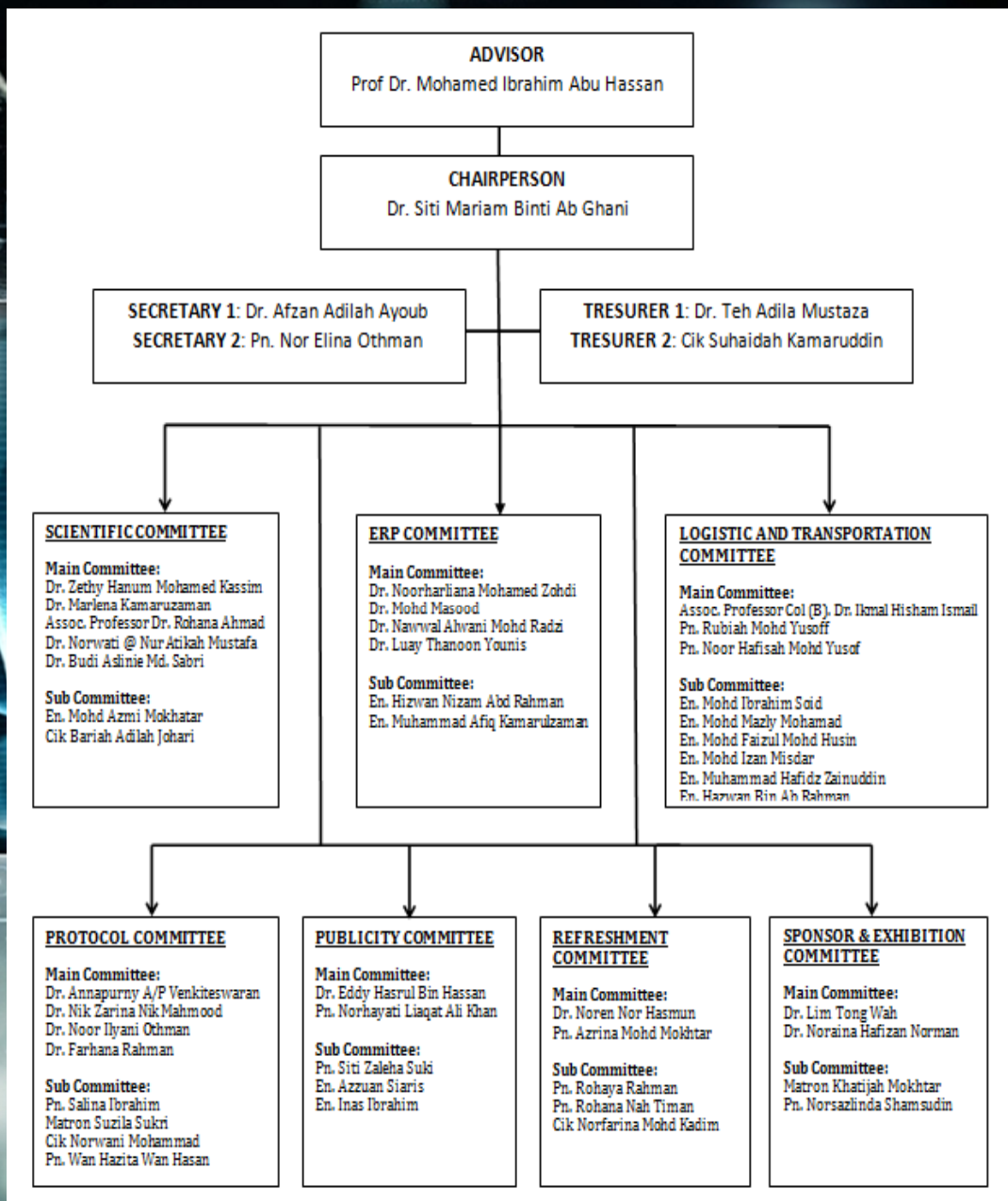
Best Regards.

Dr Siti Mariam Ab Ghani
Chairman, The 5th Dental Student Symposium
Universiti Teknologi MARA

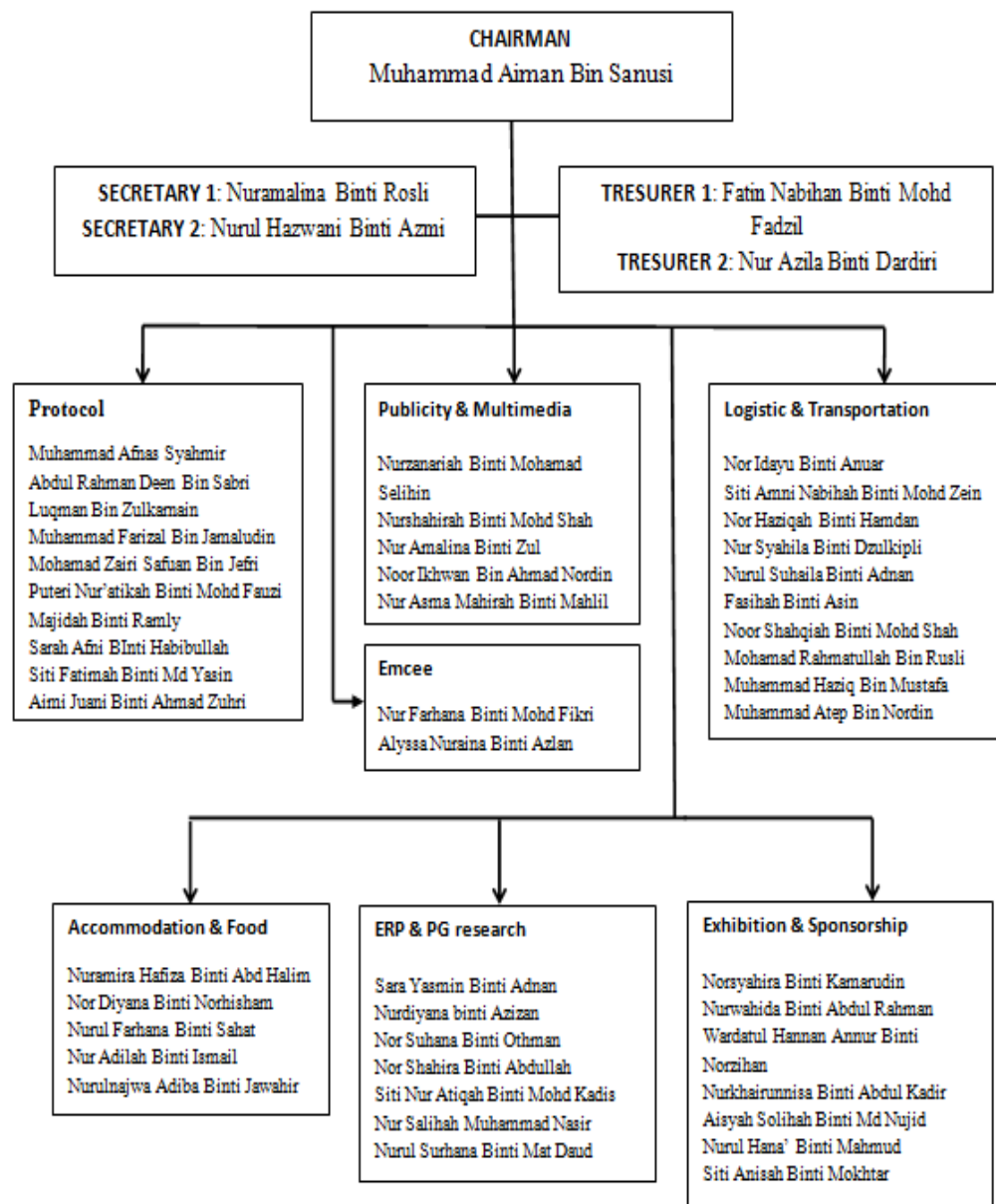
Programme Tentative

CONFERENCE DAY WEDNESDAY 15 APRIL 2015				
TIME	AUDITORIUM 1	SEMINAR HALL 3	CONCOURSE LEVEL 1	FOYER GROUND LEVEL
8.00 - 8.15am	Registration			
8.15 - 8.30am	Opening Remarks by Symposium Chairman			
8.30 - 10.30am	Scientific Session 1 UG Oral Presentation	Scientific Session 1 UG Oral Presentation	Scientific Session 3 PG e-Poster	Table Clinic (Set-up)
10.30 - 10.45am	TEA BREAK			
10.45 - 1.00pm	Scientific Session 1 (continue) UG Oral Presentation	Scientific Session 2 (continue) UG Oral Presentation	Scientific Session 3 (continue) PG e-Poster (Judging)	Table Clinic (Judging Session)
1.00 - 2.00pm	LUNCH BREAK			
2.00 - 2.45pm	Debate Final 1 <i>CADCAM dentistry provides more benefits than traditional fixed prosthodontics procedures</i>	Debate Final 2 <i>Prophylactic antibiotics are indicated after wisdom tooth removal</i>		Table Clinic (Open)
2.45 - 3.00pm	Top 5 Video Competition Voting			
3.00 - 3.15pm	TEA BREAK			
3.15 - 4.00pm	'The evolution of Dental Imaging' by Kavo Dental Asia Pacific			Table Clinic (Open)
4.00 - 5.00pm	Closing Ceremony			
5.00pm	Programme Ended			

Organising Committee



Student Committee



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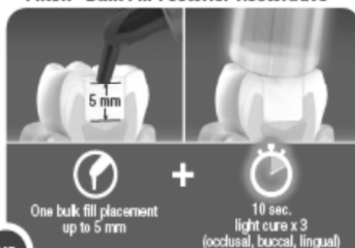
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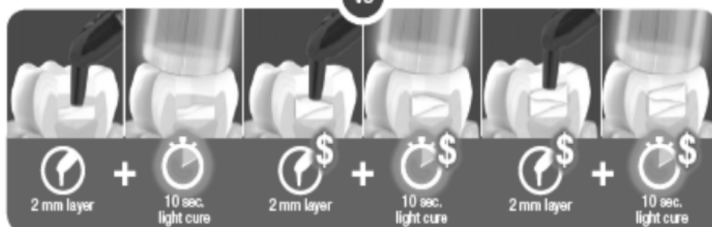
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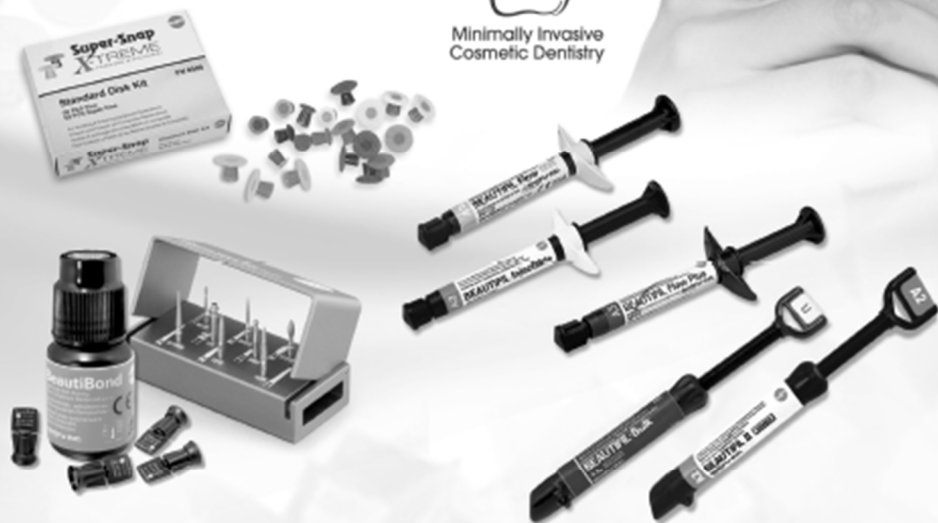
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List of Undergraduate Oral Presentations (Auditorium I)

No.	Abstract title	Page
A-OP 01	In vitro screening of seaweeds potential against oral infection. <i>Muhammad Mu'az Abd Rashit, Irman Shahir Ibrahim.</i>	17
A-OP 02	Soft Tissue Measurement in Class I Skeletal Pattern in Malay Young Adult: Using Holdaway Analysis. <i>Nurqasteena Kamarol Hissam, Puteri Ummi Atilia.</i>	17
A-OP 03	The Effect of Rosuvastatin in Orthodontic Tooth Movement - An Experimental Study in Rabbits. <i>Ashiatun Naim Zamaili, Siti Aishah Khalil.</i>	18
A-OP 04	Evaluation of Effectiveness of Manipulation Tools in Digital Radiography - A Panoramic Radiographic Study. <i>Divyashree.</i>	18
A-OP 05	Feasibility of Using Latex Examination Gloves as Dental Dam: A Tensile Strength Study. <i>Nur Hidayah Bt. Mohd Radzi, Fatimatuzzahira Bt. Abdul Hadi.</i>	19
A-OP 06	The relationship of smoking on periodontal condition: a cross-sectional study between current smokers, former smokers and non-smokers in dental clinic of Faculty of Dentistry UiTM, Shah Alam. <i>Affendy Bernardo, Haidhar Syazwan.</i>	19
A-OP 07	Closed loop revisited a removable appliance. <i>Monisha Uday.</i>	20
A-OP 08	The Relation of Maternal Dairy Products and Calcium Intake During Pregnancy To The Occurrence Of Children Dental Caries. <i>Fasiha Izni Ismail, Nur Farida Idris.</i>	20
A-OP 09	Anti-microbial effects of turmeric extracts against common oral pathogens: An In vitro study. <i>Nur Ain, Nur Syahira Nabila.</i>	21
A-OP 10	Micronuclei Analysis in Buccal Mucosa Epithelium Swab of Batik Workers in Yogyakarta Exposed to Azo Dyes. <i>Dhinintya HN Latief.</i>	21
A-OP 11	Impact of Oral Tori on Oral Health Related Quality of Life. <i>Ahmad Fakhrol Ghazi Bin Mohd Rasani, Nur Nazihah Bt. Muhammad Hanifah.</i>	22
A-OP 12	Knowledge and attitudes of parents towards Early Childhood Caries prevention. <i>Nur Athiah Abdul Aziz, Siti Nurfaezah Zainol.</i>	22
A-OP 13	The effect of 10% green tea (Camellia Sinensis) Catechins addition in periodontal dressing on human primary fibroblast proliferation (in vitro study). <i>Siti Ramadania.</i>	23
A-OP 14	Effect of Parental Perception and Habit on Sugar Consumption on Children's Oral Health Behaviour and Outcome. <i>Nurzafirah binti Ilias, Nurul Ain Najwa binti Azam.</i>	23
A-OP 15	Knowledge and attitude of primary school teachers towards traumatic dental injuries. <i>Nur Nabilah Zulkifly, Nursyazwani Hassan.</i>	24
A-OP 16	Anti-microbial effects of turmeric extracts against common oral pathogens: An In vitro study. <i>Adetya Ghassani Nurma'arif.</i>	24

List of Undergraduate Oral Presentations (Seminar Room 3)

No.	Abstract title	Page
S-OP 01	An Audit of Patient Satisfaction of Orthodontic Treatment Received In UiTM Shah Alam. <i>Nur Awanis Che Zahari, Nurul Syakirin Ayob.</i>	25
S-OP 02	Knowledge, Attitude and Provision of Advice towards Smoking Cessation among UiTM Clinical Dental Students. <i>Nur Amirul Adira M.Zamri, Nur Anis Abdullah.</i>	25
S-OP 03	Evaluation of the amount and architecture of alveolar bone loss in patient diagnosed with Aggressive Periodontitis assessed through panoramic radiographs. <i>Ihsan Maidin, Mohammad Azrin Abd Samad.</i>	26
S-OP 04	Under Surface Temperatures of Composite Resins with Polymerization Time of Light Cure Units. <i>Mohammad Mutawalli Makhbubi.</i>	26
S-OP 05	Perception on Oral Health Impact Profile Mobile Application Usage in the Dental Clinic. <i>Ili Mazlina Mukhtar, Natalia Mohd Dani Goh.</i>	27
S-OP 06	Human HBV DNA Detection and Quantification through Invertase-based System: A Pilot Study. <i>Najia Abdul Ghafar, Norhysam Kipli.</i>	27
S-OP 07	The Relationship Between Children's Oral Health Related Behaviour, Oral Health Status And Parents' Socioeconomic Status. <i>Alyaa Liyana Marzuki, Muhamad Razman Abdul Razak.</i>	28
S-OP 08	An Audit of Antibiotic Usage in Minor Oral Surgery at Centre for Oral and Maxillofacial Surgery Studies, Faculty of Dentistry UiTM. <i>Haslina Bt Tuan Him, Nurul Fatini Bt Mat Rani.</i>	28
S-OP 09	Awareness and attitude towards research ethics among faculty of dental Schools. <i>Neetha G. Shenoy.</i>	29
S-OP 10	Associations of Gonial Angle with Age, Gender and Dental Status. <i>Ena Sapura Zakaria, Puteri Nurul Adila Mohd Khairuddin.</i>	29
S-OP 11	Mobile phone use and psychosocial characteristics among students perusing dentistry in Mangalore, India. <i>Amoli Singh.</i>	30
S-OP 12	Relationship of arch base length and dental crowding in different skeletal relationships. <i>Anis Najihah Mohd Ismail, Noor Aini Mansor.</i>	30
S-OP 13	Attitudes towards Oral Hygiene- Awareness & Practice among Adolescent: A Suburban School-Based Survey. <i>Alyaa Syazana Razali, Norazuwa Hazman.</i>	31
S-OP 14	Knowledge about informed Consent and its association with socio-demographic factors in coastal India - A Hospital based cross sectional study. <i>Manipal College Of Dental Sciences.</i>	31
S-OP 15	Evaluation of Root Debridement Skill in Periodontology Pre-Clinical Module Among Year 3 Dental Students. <i>Muhammad Qadri Bin Mohd Shukri, Mohamad Syahir Bin Zulkiflee.</i>	32
S-OP 16	Evaluation of Image Quality of Periapical Radiograph among Undergraduates Student at Faculty of Dentistry UiTM. <i>Siti Hawa Binti Abdul Razak, Sarah Sakinah Binti Mohd Zabidi.</i>	32
S-OP 17	Histopathological Evaluation of Brain Tissue In Rabbit With Induced Periodontitis by P.Gingivalis <i>Farah Fadzreen Binti Harun, Siti Amanani Binti Selamat, Mohd Noor Arif Adam.</i>	33

List of Postgraduate e-Poster Presentations

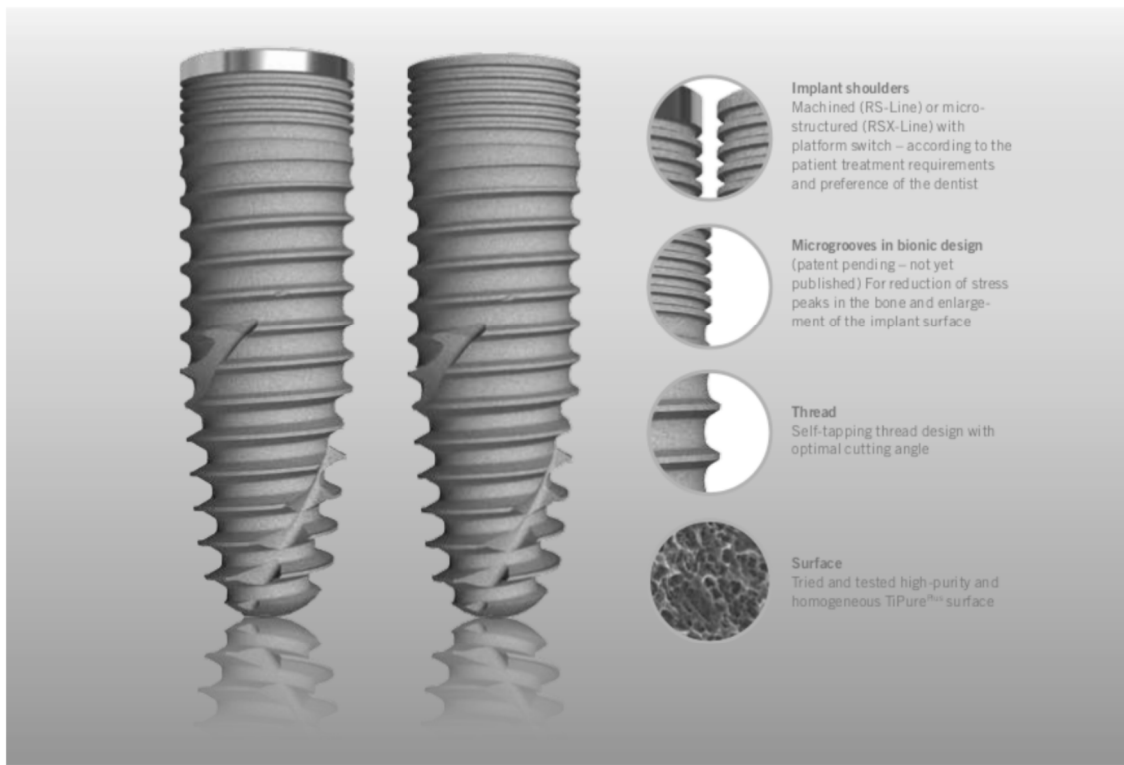
No.	Abstract title	Page
PG-eP 01	Impact of Ellagic Acid in Bone Formation after Tooth Extraction: An Experimental Study on Diabetic Rats. <i>Mazen. M. Jamil Al-Obaidi.</i>	36
PG-eP 02	Bond Failure Rate of Orthodontic Reconditioned Bracket. A Clinical Pilot Study. <i>Faisal Ismail Bahnsi.</i>	36
PG-eP 03	Arch Dimensions And Bolton's Ratio In Ethnic Malay In Uitm And Aboriginal Population In Peninsular Malaysia. <i>Khaled Awad Al Ahdab.</i>	37
PG-eP 04	Quantitative assessment of palatal cortical thickness in different skeletal relationships. <i>Nagham Mohammed Abdullah.</i>	37
PG-eP 05	The influence of ceramic veneering technique and coping-veneer ratio on fracture toughness of implant retained zirconia crowns. A pilot study. <i>Fahim Vohra, Mohsin Ali.</i>	38
PG-eP 06	The association between Vitamin D deficiency and Severe Early Childhood Caries among a group of Malaysian children. <i>Manal Mahamed Almoudi.</i>	38
PG-eP 07	3D TECA Hydrogel Modulates Cellular Senescence, Reduces Telomere Dysfunction and NFkB - induced DNA Damage Response and Enhances Human periodontal ligament Fibroblasts Migration in Wound Healing. <i>Luay Thanoon Younis</i>	39

List of Table Clinics

No.	Title	Dicipline
TC 01	Early Detection of Child Abuse	Paediatric Dentistry
TC 02	Fake Braces, a Trend or a Disaster	Orthodontics
TC 03	Green Light, Drink Right	Population Oral Health and Clinical Prevention
TC 04	Obstructive Sleep Apnea	Oral and Maxillofacial Surgery
TC 05	Dispelling the Myths and Revealing the Truth about Dentistry	Periodontology
TC 06	Mirror, Mirror on the Wall, Who is the Fairest of Them All	PreClinical Sciences
TC 07	The Devil's Breath	Oral Maxillofacial Medicine
TC 08	Fifty Shades of White	Prosthodontic
TC 09	To Promote Patient Awareness on Safety and Quality Of Endodontic Treatment by Demonstrating the Use of Apex Locators on a Simulation Model	Operative Dentistry and Endodontic

**List of Undergraduate Poster Presentations:
Patient Education Theme**

Poster No.	Title	Dicipline
UP 01	Wisdom tooth: Let It Go or Stay	Oral Surgery
UP 02	Read it before you eat it	Community Dentistry
UP 03	Periodontal Disease & Prevention	Periodontology
UP 04	Shared Decision Making	Prosthodontics
UP 05	Keep Smiling With Braces On	Orthodontic
UP 06	Pregnant? Keep Your Nice Smile for Tomorrow and Beyond	PreClinical Sciences
UP 07	Root Canal Treatment	Operative Dentistry
UP 08	Your Teeth: Healthy or Diseased?	Comprehensive Care
UP 09	Oh, No! Mouth Ulcers	Oral Medicine and Oral Pathology
UP 10	Oral Habits in Children	Paedodontic



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ABSTRACTS

Muhammad Mu'az Abd Rashid¹, Irman Shahir Ibrahim¹, Faezah Sabirin², Kazi Akhsan Jamil³

¹Faculty of Dentistry, ²Centre of Preclinical Science Studies, ³Oral biology, Universiti Teknologi MARA, 40450 Shah Alam, Malaysia.

Background: It was claimed that the old folk used seaweeds as remedy for oral health benefit. However, there is no scientific data reported to date, to support the claim. **Objective:** This research was therefore designed to screen and evaluate the antibacterial potential of Rhodophyta and Chlorophyta seaweeds aqueous and methanolic extracts against common causative agents for oral infections; *Staphylococcus aureus* (*S. aureus*) and *Streptococcus mutans* (*S. mutans*) using disc diffusion method. **Materials and Methods:** Rhodophyta and Chlorophyta were collected from the sea of Sabah which were extracted using aqueous and methanolic extraction methods. The extracted substances from aqueous extraction of each seaweed were later freeze-dried and kept at -20°C. The extracted substances from methanolic extraction of each seaweed were evaporated using rotary-evaporator and subjected to freeze-dry and later kept at -20°C. Fresh seaweed samples were prepared at concentration of 25 to 200 mg/ml. Lawns of bacteria of *S. aureus* and *S. mutans* were prepared on Mueller Hinton agars separately. Each tested extract was impregnated onto a disc and allowed to dry before placed on each lawn of bacteria prepared. The zone of inhibition was observed and measured after 24 hours incubation. **Results:** All tested seaweed methanolic extracts showed antibacterial activity against *S. aureus* and *S. mutans* as well as the Chlorophyta aqueous extract. The results obtained however did not produce dose dependent patterns. **Conclusions:** The results demonstrated that the Rhodophyta and Chlorophyta produced antibacterial activities against *S. aureus* and *S. mutans* using disc diffusion method.

Nurqasteena Kamarol Hissam¹, Puteri Ummi Atilia¹, Indah Yuri Noviaranny²

¹Faculty of Dentistry, Universiti Teknologi MARA, 40450 Shah Alam, Selangor, ²Centre of Studies of Paediatric Dentistry and Orthodontics, Faculty of Dentistry, Universiti Teknologi MARA, 40450 Shah Alam, Selangor.

Objectives: 1. to determine the soft tissue measurements in Class I Malay young adult, 2. to compare between genders, 3. and to check applicability of Holdaway values for Class I Malay young adults. **Materials and Methods:** Lateral cephalometric of 20 men and 20 women age 20-30 years with Class I skeletal was selected from Orthodontics Clinic, Faculty of Dentistry UiTM. The subject has no orthodontic or orthognathic surgery done before the radiograph was taken. The radiograph were traced and evaluated by the authors. Cephalometric landmarks were located according to Holdaway analysis. Ten linear and two angular measurements were produced on each radiograph and measured. For each variable, the mean and standard deviation (SD) was calculated using simple t-test. ($p < 0.05$) **Results:** Soft tissue measurements for Malay have significant difference as compared to Holdaway value except for three parameters which are soft tissue facial angle, superior sulcus depth, and soft tissue chin thickness. When compared between genders, male has larger value in skeletal profile convexity, upper lip strain and soft tissue thickness while females demonstrated higher value in nose prominence and superior sulcus depth. **Conclusions:** Based on this study, it has been concluded that soft tissue values was found to be statistically different from Holdaway values, hence Holdaway soft tissue values are not applicable for use in orthodontic practice for studied population. Considering values obtained from the studied population as baseline values, and would aid in better diagnosis and treatment planning.

Ashiatun Naim Zamaili¹, Siti Aishah Khalil¹, Saba F. Hussain², Fouad Hussain AlBayaty³ and Omar Emad Ibrahim⁴

¹Faculty of Dentistry, ²Centre of Studies of Paediatric Dentistry and Orthodontics, ³Centre of Periodontology, ⁴Centre of Preclinical Science Studies, Faculty of Dentistry, Universiti Teknologi Mara, 40450 Shah Alam Selangor.

Introduction: Bone remodeling is an important key in acceleration of orthodontic tooth movement through osteoclastic and osteoblastic activity of surrounding periodontium in response to mechanical stimuli. Statin drugs for examples Rosuvastatin promotes osteogenesis. Lack of previous study investigates the effect of Rosuvastatin on acceleration of tooth movement.

Objectives: The aim of this study was to investigate the effect of Rosuvastatin on orthodontic tooth movement and bone remodeling orally and histopathologically. **Methods:** Six White New Zealand rabbits were randomly divided into control and experimental groups (n= 3/ group), one negative control and two positive control. All the rabbits received an orthodontic appliance consisted of a nickel titanium coil spring connected to lower central incisors and first molar using stainless steel ligature bonded via light cured orthodontic adhesives except the negative control. The experimental group received 2.5mg Rosuvastatin according to body weight for 21 days orally. All rabbits were sacrificed at day 21 and lower jaws were sectioned for histopathological evaluation. The amount of orthodontic tooth movement was assessed by using digital caliber and observed by Cone beam computed Tomography (CBCT). Statistical analysis was performed with SPSS version 20. **Results:** The results showed statistically significance difference between experimental and control groups in amount of orthodontic tooth movement after 21 days (p < 0.05) that was supported with CBCT findings. On the other hand histopathologically showed significant increase in osteogenesis with Rosuvastatin administration. **Conclusion:** Thus oral administration of Rosuvastatin drug showed significant acceleration in orthodontic tooth movement and alveolar bone remodeling in rabbits.

Divyashree¹, Rachita Kodandera Chengappa K², Ramaprakasha Bhat Badikody², Veena S Naryanan³, Mangala P Rakaraddi⁴

¹4th year BDS; ²Post graduate students; ³Professor, ⁴Professor & Head of Department of Oral Medicine and Radiology, Coorg Institute of Dental Sciences, Coorg, India.

OBJECTIVES: Digital radiology has introduced the possibility of manipulating visual information to enhance distinct characteristics that allow for improvement in the diagnostic process. However, it will increase the time taken to interpret the image. Hence; objective of this study was to evaluate the influence of image manipulation tools on various image characteristics of a lesion. **MATERIALS AND METHODS:** 25 digital orthopantomographic images with jaw lesions were selected from the past electronic records from 2007-2014. Examiners were divided into 2 groups- expert and non expert group. The expert group was maxillofacial radiologists with minimum 10 years of experience and non expert group was postgraduate students of oral and maxillofacial radiology. The examiners were instructed to view the image prior to the manipulation and make an entry in a pre formed format about the characteristics of the lesion based on the borders, internal structure, extent and effect of the lesion on surrounding structures and diagnosis. The examiners were then instructed to use the image processing tools (contrast, sharpness, brightness, noise reduction, inversion and zoom) and were asked to score the improvement. Radio-diagnosis before and after manipulation were noted and compared with histopathology. **RESULTS:** Sharpness contributed highest to the improvement followed by zoom and contrast. Noise reduction did not alter image quality and inversion lead to highest impairment. An inter-observer variation was found between groups on usage of image processing tools using kappa coefficient. **CONCLUSION:** Digital manipulation tools improved the quality and perception of the lesion. However, did not change the diagnosis.

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Objective: The aim of this study was to evaluate feasibility of latex examination gloves as a rubber dam alternative, in perspective of tensile strength properties. **Materials and Methods:** An experimental study of tensile strength of three types of gloves (Cross Protection Powder and Powder Free Latex Examination Gloves, and Discovery 2020 Powder Free Latex Examination Gloves) and two types of a rubber dam (Rainbow Dental Dams Powder Free Heavy-Gauge and Medium-Gauge) as a control group. Cut-out pattern of dumb-bell shapes were made from 35 samples for each type of groups and tested using Universal Testing Machine for tensile strength. The data were analyzed by analysis of variance (ANOVA) and the means were compared using a Tukey-Kramer interval calculated at the 0.05 significance level. **Results:** For all variables tested, all groups are significantly different from each other. However, Discovery 2020 Powder Free Latex Examination tensile strength (MPa) value 28.5922 (± 3.27366) falls within federal specification ZZ-R-690B Rubber Dam (Dental) (>27.6 MPa). The mean square between the groups was quite large. **Conclusion:** There are significant differences between the physical strength of latex gloves when compared to rubber dam. Although Discovery 2020 Powder Free may be feasible as a rubber dam alternative, further research is needed to study on the other properties such as permeability. Findings on clinical handling of the rubber gloves as rubber dam substitute should also be explored.

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OBJECTIVE: This study was carried out to evaluate the relationship between cigarette smoking and periodontal status of patients between 20-30 years old attending to Primary Care Clinic at the Faculty of Dentistry UiTM, Shah Alam. The aim is to assess and compare the periodontal condition of current, former and non-smokers by using the automated periodontal probe (Florida Probe). **METHODS AND MATERIALS:** Guided questionnaire were given followed by clinical examination for each of eligible participants. The questionnaire consisted of 2 sections: socio-demographic data and smoking status of the patient. The clinical parameters used in this study were: Probing pocket depth, Gingival Bleeding Index and Plaque score Index. **RESULT:** A total of 27 participants were eligible for this study consisting of, 10 participants (37.04%) of which were current smokers, followed by 1 participant (3.70%) and 16 participants (59.26%) were former and never smoked respectively. Results also showed that no significant differences in their mean probing depth between the different groups. The only significant difference recorded in this study was the bleeding on probing measurements where the current smokers have least mean bleeding scores compared to other groups. **CONCLUSION:** Thus, there was a possible relationship between smoking and reduced gingival bleeding.

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Objectives: The closed loop or the “T – Spring” is a spring used for moving the pre molar teeth buccally when in cross bite. Here we are presenting a modification of conventional closed loop spring with two additional helices as well as bends in the retentive arms for vertical adjustments to correct anterior single tooth cross bite. This modified spring has continuous forces as well as a better control over the conventional spring. **Case Report:** A 11 year old female patient presented to our hospital with anterior cross bite with respect to 21. A modified closed loop spring was fabricated and delivered. The various modifications were incorporated in the spring in order to ensure proper contact with tooth surface. The appliance also incorporated an acrylic base plate retained by Adams clasp and a ball end hook respect to 11. In addition, posterior bite planes were also used in order to achieve occlusal clearance for cross bite. As the space available was not sufficient, a Coffin spring was incorporated in order to allow arch expansion. **RESULTS:** The modified closed loop spring provided continuous forces and better control with tipping movements in correcting single tooth anterior cross bite within a short span of 3 weeks. **CONCLUSION:** The modified spring over the conventional spring is that the forces are more controlled, continuous and can be increased at will.

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Objectives: To investigate the association between maternal intakes of dairy products namely milk, cheese and yoghurt and calcium supplement during pregnancy and its outcome on the children's dental caries. **Material and Methods:** 96 mother-child pairs from Selangor and Klang Valley area was recruited for a series of questionnaires comprises of basic personal information, everyday diet and dental health care and simple oral examination. The association of various factors, primary and confounding factors to the occurrence of children dental caries was statistically analyze from the data collected. **Results:** Crude and adjusted confounding factors statistical analysis results did not differ significantly. We did not found any significant evident regarding the association of maternal intakes of dairy products namely milk ($p= 0.80$, $OR= 0.83$ and $95\% CI=0.19-3.68$), yogurt ($p= 0.30$, $OR=0.61$ and $95\% CI value=0.24-1.55$) and cheese ($p=0.17$, $OR= 0.45$ and $95\% CI value=0.23-1.31$) and calcium supplement ($p= 0.38$, $OR= 1.80$ and $95\% CI value= 0.47-7.40$) during pregnancy with the occurrence of childhood dental caries. **Conclusion:** From the data collected, there are no significant association of maternal intake of dairy products and calcium during pregnancy with the risk of children dental caries. However, interestingly we discovered the trends suggesting that higher consumption of dairy products and calcium supplementation leads to the decrease in children caries occurrence. There are as well other factors related to the occurrence of child's dental caries which include the brushing habits, breast-feeding and usage of fluoridated toothpaste.

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Objective: The studies were undertaken to identify the antimicrobial effect of turmeric extract and to determine the minimum inhibitory (MIC) and minimum bactericidal concentration (MBC) against common microorganisms that cause oral infections. **Materials and methods:** Two preparations of turmeric extract namely turmeric crude extract (TCE) and turmeric capsule (TC) were used to test against *Staphylococcus aureus*, *Streptococcus mutans* and *Candida albicans*. The TCE was prepared by cleaning rhizomes of turmeric with water and surface sterilized by 95% alcohol. The rhizomes were sliced and dried at 40 °C in hot air oven for 48 hours. One gram of turmeric was blended with 50 mL distilled water and filtered. The filtrate was stored at -80°C prior to freeze drying and was subjected to freeze dryer to make into powder form. Meanwhile for TC (Anugerah, Malaysia) was a commercial preparation consist of combination of curcumin and *Camellia sinensis* (green tea). The broth microdilution method was done to evaluate the MIC for each organism and MBC test was performed from MIC plate test. **Results:** The study revealed that the both TCE and TC posed antibactericidal activities against *S. aureus* by providing MIC value of 0.5 mg/mL and 2 mg/mL, respectively. Meanwhile, TC only showed antibactericidal activity against *S. mutans* with MIC value of 6.25 mg/mL. However, both TCE and TC showed no antifungal activity against *C. albicans*. **Conclusion:** These data showed that turmeric extracts are responsible for antibacterial activity against oral pathogens suggesting its potential as an alternative therapy in the oral cavity.

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Objective: This study is aimed to acknowledge the cumulative frequency of micronucleus on buccal mucosa of batik workers caused by azo dyes exposure. **Materials and methods:** This cross-sectional study involved 20 subjects; 10 exposed subjects and 10 non exposed subjects. Exposed subjects were male batik workers aged 18-40 year old, worked in The Unit of Coloring batik home industries in Gunting, Pandak, Yogyakarta. Sample of buccal mucosal epithelial cells were taken using cytobrush and smeared on object glass containing droplets of NaCl 0.09% solution and subsequently fixed in methanol-acetate. The specimens were then stained using modified Feulgen-Rossenbeck method. Micronucleus frequencies were scored within 1000 cells per sample under light microscope. Independent T-Test test ($p < 0, 05$) was used to analyze the results obtained. **Results:** The result showed there were significant differences micronucleus number of buccal mucosa epithelial cell of oral cavity between batik workers group who were exposed to azo dyes and non exposed group. **Conclusion:** Azo dyes may influence the frequency number of micronucleus on buccal mucosa of batik workers in Yogyakarta. Based on this study, the duration of 23 years exposure may indicate the increasing value of the frequency number of micronucleus on buccal mucosa of batik workers in Yogyakarta.

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Objectives: The aim of this study was to measure the impact of having oral tori on Oral Health Related Quality of Life (OHRQoL) among Universiti Teknologi MARA (UiTM) dental student. **Materials and Methods:** A matched (Age, gender and year of study) case-control study design was used in this study. Every batch from year 1 to year 5 was provided with a printed coloured photograph of oral tori. The photographs act as a guide for them to know whether they have oral tori or not. The entire participant who have oral tori required to tick their names on a name list provided. A total of 77 students with oral tori were agreed to participate, 77 matching control students without oral tori were also selected. All the participants were asked to complete the Oral Health Impact Profile-14 (OHIP-14) questionnaire. A clinical examination was done to measure tori size using dental calliper.

Results: Participants with tori had significantly higher mean (\pm SD) 19.2(\pm 9.7) OHIP-14 score than participants without tori 16.4(\pm 9.5). The physical discomfort and psychological discomfort domains had highest impact due to tori with a mean (\pm SD) of 4.19(\pm 1.9) and 2.6(\pm 2.1) respectively. The regression analyses showed a significant impact of having tori on overall OHIP-14, physical discomfort and psychological discomfort domain score after controlling for age, gender and year of study. **Conclusion:** Oral tori have a significant negative impact on OHRQoL and its domains. This is greatest for the psychological discomfort domain. There was no difference in impact between male and females.

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Objectives: The knowledge of parents about children's oral health may improve with time. However, this does not mean that they possess the appropriate attitudes and practices towards the prevention of Early Childhood Caries (ECC). This study aims to assess the knowledge and attitudes of parents about the ECC prevention in their children and investigate how they are associated with the ECC experience. **Materials and Methods:** This was a cross-sectional study conducted among parents who brought their children to the Paediatric Dental Clinic at Universiti Teknologi MARA, Malaysia. All parents were introduced to the study and consent was obtained. The children underwent a comprehensive dental screening and the dmft index was recorded while their parents completing the questionnaire (n=330). Parents' responses were matched with the findings obtained from child's examinations. Data were analyzed using descriptive statistics and bivariate analysis. **Results:** The mean dmft index in all children was 5.50 \pm 4.88. The occurrence of ECC was 76.8%. Overall, 97.2% of parents recognized the importance of the primary teeth, 72.5% of them knew the bad effects of bottle feeding on the teeth and 66.3% of parents thought that decayed primary teeth should be restored. However, only 46.2% realized that the first dental examination should be by age 12 months. **Conclusions:** The parent's possess the sufficient knowledge regarding the fluoride used, bottle feeding and treatment of decayed primary teeth. However, the majority of them were unaware of the recommended time for first dental visit. Parents must receive appropriate anticipatory guidance and also need to appreciate the benefits of early dental visit to the oral health of children.

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Periodontal dressing was recently developed with additives to support oral wound healing. Green tea catechins was known for its wound healing potential, but studies about catechins effect on fibroblast proliferation, which is one of the wound healing sequence, had variety of results. **Objective:** To investigate the effect of 10% green tea catechins addition in periodontal dressing on human primary fibroblast (HPF) proliferation. **Materials and Methods:** This study used 3 types of periodontal dressing: Baer's periodontal dressing (PD), Baer's periodontal dressing with 10% green tea catechins addition (PDC), and Coe-Pak™ (CP) which all were immersed in natural saliva for one day. The immersion of each periodontal dressing was added into HPF culture and incubated for 24 and 72 hours. Proliferation test conducted with MTT assay that resulted the relative amount of HPF presented as optical density (OD) value. **Results:** MANOVA results of OD value after 24 hours incubation showed no significant differences among CP, PD, and PDC whereas data of 72 hours incubation showed significant differences. Furthermore, LSD test of OD value after 72 hours incubation proved that PDC was statistically different with CP and PD, while CP and PD didn't show any significant difference. These results showed there was a different rate of HPF proliferation between PDC and the other groups. Independent T test conducted to PDC group showed there was no significant difference between OD value of 24 hours and 72 hours incubation. **Conclusion:** Our findings suggest that 10% green tea catechins addition in periodontal dressing inhibit HPF proliferation.

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Objectives: The purpose of this research is to study the effect of parental eating habits and perception on children's habits, perception of types of food intake and on their oral health behavior. This study also aims to explore the relationship of these perceptions with children's' caries status. **Materials and Methods:** The study protocol was approved by the Ethics Committee of University Technology Mara, Shah Alam (600-RMI(5/1/6)). The research questions were explored using data collected from a representative sample of 223 9-10 year old children attending the Sekolah Rendah Agama Integrasi Shah Alam and their parents. A retrospective dental record review of fully documented dental records belonging to the selected students was conducted. Dental caries was recorded using dmft and DMFT index for deciduous teeth and permanent teeth respectively. A questionnaire exploring parent's and child's perception on sugar consumption and dietary habits were also administered. **Results:** The mean dmft /DMFT scores for the sample were 2.56 (S.D 2.44). Perception of sugary snacking for both parents and children was associated with their frequency of sugary snacking. Duration and perception of food intake for parents were also associated with children's duration and perception of food intake. **Conclusion:** People's perception on dietary habit influences their dietary behaviour and children's perception and dietary behaviour are linked to that of their parent's.

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Objectives: To ascertain the level of knowledge among primary school teachers towards the management of traumatic dental injuries (TDIs) in school and to determine the preference among teachers regarding the tools that can be used to increase awareness and knowledge among them. **Materials and methods:** A total of 150 teachers from 10 primary schools in three different districts were included in the study. Data was collected using a three-part questionnaire comprising of question regarding the demographic information, previous experience with dental trauma, first-aid training, knowledge of emergency dental management and how they would respond to two hypothetical TDIs cases. **Results:** All 150 participants answered the questionnaire; of these 74.0% were females and 26.0% were males. A majority of the participants had received tertiary education. While 105 teachers reported having had first aid training, only 9.3% of them reported management of TDIs being covered in this training. About 52.7% of participants correctly answered the question on the appropriate response to fractured tooth and only 35.3% correctly answered the question on the appropriate response to an avulsed tooth. Only 38.7% knew about appropriate rinsing solution and about 4.7% were familiar with proper storage media. About 93.3% of them interested to gain knowledge in dealing with dental emergencies in school. **Conclusion:** The results of this study demonstrated a substantial lack of knowledge among teachers in providing emergency management of TDIs in schoolchildren, suggesting that educational programs are needed to increase awareness and improve proper emergency management of TDIs by teachers.

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Cleaning in root canal treatment needs an irrigant with good penetration ability due to complex anatomy of dentinal tubules. Increasing temperature is considered to obtain good penetration due its ability in lowering surface tension of irrigant. Previous study stated that heated irrigant is capable in cleaning up dentin more efficiently. Phaleria is cultivated in Indonesia as herbal alternatives whereas in dentistry, its antibacterial and emulgator effect are recommended as root canal irrigant.

Objectives: This study aims to determine the relationship between temperature differences and penetration area of irrigant of phaleria's extract (*Phaleria macrocarpa*) into root canal dentin. **Materials and Methods:** Nine samples of teeth with well-cut coronal and apical third were divided into three groups. After injection of Phaleria's extract with temperature of 25°C, 37°C, and 40°C, each sample was sliced into 5 segments with 1 mm thickness respectively. Calculation of penetration area was done by capturing surface sample with *macrodigital* camera, then analyzed with *Axiovision*. *Pearson Correlation* and *Regression test* were done. **Results:** The result showed that the increase in temperature from 25°C to 40°C demonstrated the increasing of penetration area. Temperature is capable in lowering surface tension and viscosity of irrigant while saponin of Phaleria has emulgator effect to lowering surface tension. Heated Phaleria was recommended as herbal irrigant besides its less-toxic and antibacterial effect, but future research not only comparison with NaOCl, but valuable information regarding to the chemical stability on various temperature is necessary. **Conclusion:** Higher temperature of *Phaleria macrocarpa* demonstrated the increasing of penetration area.

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Objectives: This study was conducted to assess patient satisfaction in the quality of orthodontic care received in UiTM Orthodontic Clinics. It is also aimed to highlight any areas of weakness and to recommend changes to address areas of concern by the patients. **Materials and methods:** The patient satisfaction standard was set to 90% satisfaction in line with other previous studies of similar nature. This was a prospective audit in which a questionnaire was given to 130 patients attending orthodontic appointments in the respective clinics. The questionnaires were tailored to assess various aspects of orthodontic services such as the relationship between clinician and patient, access, waiting time, facilities, continuity, clinical atmosphere and technical quality of the services. Patient consent was voluntary and responses were kept anonymous. Data was entered into SPSS version 2.1 for analysis. Descriptive statistics was applied in the study. **Results:** The only component which met the gold standard of above 90% was the clinical atmosphere, which was 95.4%. Other factors of patient satisfaction did not achieve the gold standard of other centres. Factors such as technical quality scored 88.5%, followed by facilities 84.6%, continuity of the treatment 83.1%, relationship between clinician and patient 80.8% and access 74.6%. Patients were most dissatisfied with the clinical waiting time with a satisfaction score of 55.4%. **Conclusion:** This audit addressed an important component of clinical governance by monitoring the delivery of quality standards. Overall, the vast majority of patients were satisfied with the provision of orthodontic care at UiTM Orthodontic Clinics. However, audit gold standard was not met in all components except for the clinical atmosphere of the clinics. Several recommendations were suggested to improve the standard of care in UiTM. The future plan is to implement these changes and re-audit in 12 months' time with a larger patient sample size.

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Objectives: The aim of this study was to assess the smoking cessation knowledge, attitudes and provision of advice among UiTM clinical dental students. **Materials and Methods:** A twenty-nine item questionnaires were distributed to all the clinical dental students in UiTM consist of year 3, year 4, and year 5 (n = 152). The questionnaire includes 5 sections; A) Personal data of each students; B) Knowledge of students in providing smoking cessation advice (SCA); C) Attitude of students towards smoking cessation; D) Current practices among students in providing SCA; E) Perceived barriers in providing SCA. **Results:** All of the clinical dental students responded. Majority of students (90.8%) highly agreed that dentists have an important role as a smoking counsellor and (65.8%) of them have attended lecture, course or training on smoking cessation. Even though more than half of the students (85%) have routinely ask patients about their smoking status, only (60.5%) of students have confident in providing SCA. Among the barriers cited were majority of students (92.1%) feel that the setting of the dental health education clinic in Faculty of Dentistry UiTM is less conducive for the delivery of SCA followed by lack of training and skills on the subject of smoking cessation (66.4%). **Conclusion:** On this basis, there is a critical need to provide a more conducive dental health education clinic for students to deliver SCA effectively and to improve the present tobacco use cessation curriculum by including a clinical training in delivering smoking cessation advice (SCA).

S-0P 03

Evaluation of the amount and architecture of alveolar bone loss in patient diagnosed with Aggressive Periodontitis assessed through panoramic radiographs.

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Objectives: To determine the prevalence of Aggressive Periodontitis (AgP) and the alveolar bone loss (ABL) pattern. **Materials and Methods:** A retrospective study was done by examining dental records of patients referred to the specialist periodontal clinic at Faculty of Dentistry UiTM Shah Alam from January 2009 until December 2014 for AgP cases based on the 1999 Classification Workshop. A radiographic linear measurement procedure (Planmeca Romexis version 2.9.2 software) was used on their panoramic radiographs (OPGs). **Results:** 2.5% of patients was diagnosed with AgP (13 male and 11 female). ABL% was demonstrated at mesial of maxillary second molar for both quadrant of male (right=18.50%, left=17.65%) and female (right=10.55%, left=10.24%). For mandibular tooth, ABL% is at the mesial of right mandibular first molar and distal of left mandibular first molar on both male (right=8.77%, left=10.08%) and female (right 11.13%, left=9.27%) patients. Significant correlation was observed between ABL% on both right and left quadrant of maxilla of male patients. However for female patients the correlation is weaker. Percentages of vertical bone defect was found higher at the mesial of maxillary second molar, distal and mesial of maxillary first molar and distal and mesial of mandibular first molar. **Conclusion:** Pattern of alveolar bone loss in patients diagnosed with AgP in this study affected the first and second molars, similar to the findings in the literature. ABL showed bilateral or symmetrical pattern. Vertical bone defects was found affecting the molars than the premolars.

S-0P 04

Under Surface Temperatures of Composite Resins with Polymerization Time of Light Cure Units.

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Objectives: To analyze influence of curing time on the under-surface temperatures of composite resins. **Materials and methods:** A prototype Light Cure Unit(LCU) using Pulse Width Modulation 900 mW/cm², obtained from a previous study, was used to prepare resin composite samples. A Composite resin material was filled into cylindrical molds of 6 mm in diameter and 2 mm in thickness then light-cured for 10 or 20 seconds. While light curing, the under-surface temperature of composite resin samples were measured using a thermocouple thermometer. The under-surface temperature of the samples polymerized by the prototype light cure unit for 20 seconds were compared to those revealed from a commercially available light cure unit of 900 mW/cm² was used as a control. Data were analyzed using one-way ANOVA($\alpha=0.05$). **Results:** The under-surface temperatures of resin composite samples obtained from the prototype LCU cured for 10 seconds and 20 seconds have temperatures 29.52±0.4 °C and 30.62±0.4°C respectively. Moreover, commercially available LCU has temperature 30.5±0.4 °C. The under-surface temperature of composite resins polymerized for 20 seconds using the prototype and the commercially available material was not significant ($p>0.05$). Whereas using the prototype with curing time of 10 seconds, the temperature did lower, which was significant ($p<0.05$). **Conclusions:** Temperatures of the prototype and the commercially available LCU were similar. However, the prototype LCU may not be followed with adequate energy to polymerize composite resins. Further research, therefore, need to study the under-surface temperatures of resin composites by using the prototype light cure unit with adjusted light irradiance.

S-0P 05

Perception on Oral Health Impact Profile Mobile Application Usage in the Dental Clinic.

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Objectives: To evaluate dental students' perception towards the usage of tablet application in the dental clinic, their usage of tablet in daily routine and their response towards tablet use in the clinical environment. **Materials and methods:** An iPad tablet equipped with an Oral Health Impact Profile Mobile Application (OHIP Mobile App) was used as the survey tool. Three validated OHIP questionnaires were adopted into Mobile App to make them more interactive compared to traditional pen and paper method. OHIP questionnaires were chosen because they are the most widely used questionnaire to gain accurate measure of self-reported dysfunction, discomfort and disability related to oral condition. Data was collected from 114 undergraduate Universiti Teknologi MARA (UiTM) dental students currently in their clinical years. The students used the iPad OHIP Mobile App on their patients in clinic, and subsequently fill out an online survey form regarding their perception and experience on using the iPad application. **Results:** The students' perceptions on the usage of iPad OHIP Mobile App in dental clinic were found to be positive. 67.5 percent of the students agree that the iPad application is useful in the dental clinic, 66.7 percent of the students think that the iPad application is beneficial to be downloaded if available in online market and 68.4 percent of the students will use the iPad application if it is made available in the clinic. **Conclusion:** This study indicated that majority of the respondents were willing to accommodate the use of iPad application in the dental clinic.

S-0P 06

Human HBV DNA Detection and Quantification through Invertase-based System: A Pilot Study.

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For infectious diseases like Hepatitis B, the virus (HBV) DNA detection and quantification has important roles in early disease discovery, disease progression monitoring, treatment, and management in the long-run. Many well developed methods and techniques used routinely in medical centers and research laboratories for the detection of the DNA are time-consuming and costly from samples preparation to result delivery. DNA hybridisation between complementary ssDNA occurs when double stranded DNA (dsDNA) denatures. A novel approach by coupling an ambient temperature denaturation of DNA with a class of molecular sensors called functional DNA sensors will enable detection of the targets without using PCR. **Objectives:** To investigate and validate the DNA-invertase conjugate based method for detection and quantification of human HBV DNA. This study will utilise the action of chemical denaturation and invertase enzyme to transform DNA into glucose in developing a cost-effective, portable, and rapid HBV DNA quantification device for public or on-site use. **Materials and Methods:** The denaturation of dsDNA at ambient temperature is performed through T_m lowering reagent. DNA detection utilizes cDNA-invertase conjugate sequence-specific base pairing with HBV DNA. Convenience sampling method was used with sample size of ten (n=10), consisting of 5 HBV-vaccinated individuals and 5 non-HBV-vaccinated individuals. **Results:** Without the denaturation step, negative readings were observed. Denaturation of the DNA templates gives promising results for detection but need further validation. **Conclusion:** This study opens a novel alternative way for HBV DNA detection and quantification on-site without the high costs and long waiting period of sending samples to professional laboratories. A modified simpler step is currently under investigation.

S-0P 07

The Relationship between Children's Oral Health Related Behaviour, Oral Health Status and Parents' Socioeconomic Status.

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Objectives: This study aims to determine the relationship between children's oral health related behavior, oral health status and parents' socioeconomic status. **Materials and Methods:** A total of 131 children aged between 8 to 17 years old participated in the study. Their parents' socioeconomic status was measured by education level and household income. Data on family affluence, dietary habits, oral hygiene practices, dental attendance and smoking habits were obtained through questionnaires completed by the participants. Oral health examination was carried out to measure the caries and periodontal status. **Results:** Though the findings showed positive correlations and children from lower socioeconomic group showed poorer oral health related behaviors, the findings were not significant. Participants with higher socioeconomic advantage were found to be more at risk for dental caries and this could be attributed to the affordability and accessibility of confectionaries. Results showed that the children see the dentist when the nurse comes to the school for the yearly check up. A significant inverse relationship was found between the participants' periodontal status and socioeconomic status. **Conclusions:** More studies aimed at analyzing the relationship between oral health behavior and statuses to SES are needed to identify the specific factors associated with SES that contribute to oral health behavior. Specific oral health promotion programmes for this group of children aimed at improving oral health related habits should be carried out and targeted towards all children irrespective of their socioeconomic status.

S-0P 08

An Audit of Antibiotic Usage in Minor Oral Surgery at Centre for Oral and Maxillofacial Surgery Studies, Faculty of Dentistry UiTM.

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Objectives: To evaluate the need for antibiotic prescription after third molar surgery at Center for Oral and Maxillofacial Surgery Studies, Faculty of Dentistry UiTM. **Material and methods:** Records of patients who had undergone surgical removal of impacted mandibular third molars at the Centre for Oral and Maxillofacial Surgery Studies, Faculty of Dentistry, UiTM from 1/1/2007 until 31/12/2014 were retrieved. Only records with complete documentation, patient with no known systemic conditions at risk for bacterial endocarditis requiring antibiotic prophylaxis and had attended a follow up review one week after surgical removal of wisdom teeth were included. Cases included in this study were then divided into those given antibiotics and not prescribed antibiotics immediately after surgery was performed. Any complications seen were recorded. **Results:** A total of 460 patients underwent surgical removal of impacted mandibular third molar from 1/1/2007 to 31/12/2014. One hundred and seventy four cases were included in this audit, while 286 cases did not meet the inclusion criteria and were excluded. Out of 174 patients, 77 (44.3%) were prescribed with antibiotics while 97 (55.7%) were not prescribed with antibiotics post surgically. There was no incidence of infection and alveolar osteitis (dry socket) recorded at one week post-operatively. Other recorded complications include pain, swelling and limited mouth opening but there was no significant difference found between the two groups of patients. **Conclusion:** Antibiotic prophylaxis was not significantly beneficial in preventing post-operative complications for surgical removal of impacted mandibular third molars.

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Objectives: Ethics is the philosophy of human conduct, a way of stating and evaluating principles by which problems of behavior can be solved. It is very important in the aspect of research in any health care sciences in general and dentistry in particular. The objective of this study was to assess the awareness and attitude towards research ethics among faculty dental colleges. **Materials and methods:** The present cross-sectional study included faculties among four dental colleges in and around Mangalore. Ethical committee clearance was taken from the institute. The participants were briefed about the nature of the study and were asked to fill out the questionnaire. Descriptive statistics was calculated. **Results:** A total of 115 faculties participated in this study, out of which 58 (50.4%) were females, 43 (37.4%) were males and 14 (12.2%) participants did not specify their gender. About 53 (46.1%) participants said in India, Indian Council of Medical Research (ICMR) guidelines were considered essential in research. About 60 (57.4%) were familiar with ethical principles in human subject research. But only 10 (8.7%) were aware of the role of research ethics committee. 66 (57.4%) participants did not undergo training in research ethics, out of that only 24 (20.9%) were willing to undergo training. 104 participants agreed that research with human subjects must be reviewed by research ethics committee. **Conclusion:** Majority of the faculties had knowledge in research ethics. But there were knowledge gaps too. Training programmes would be necessary to bridge this knowledge gap.

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Objectives: The aim of this proposed study is to create a preliminary database of gonial angle (GA) sizes of the Malay populations and to find associations of GA with age, dental status and gender. It was hypothesized that GA will increase with age and the status of dentition as it progresses from dentate to edentulousness. **Materials and Methods:** More than 600 orthopantographs (OPG) were retrieved from faculty dental records and filtered to achieve 200 male and 200 female subjects with similar subgroups of 50 fully edentate, 50 partially dentate and 100 dentate subjects. The dentate subjects were further divided into 50 middle-aged group (40 years old and above) and 50 young adult group (20-30 years old). The GA was measured on the OPG and correlated with age, gender and dental status. **Results:** There was a general trend of increase in the size of GA as the dental status goes from dentate to edentate but the increase was not significant. However, there was a significant difference in GA sizes within the dentate patients as age increases but no differences were detected between genders. **Conclusions:** A preliminary database on the mean sizes of GA for Malay population has been established which could be used as future reference. This study also proved the hypothesis that GA size increases with age, which could be due to the reduction of muscles strength as a result of aging. The state of dentition did not seem to play a significant role in determining the size of GA.

S-0P 11**Mobile phone use and psychosocial characteristics among students perusing dentistry in Mangalore, India.***Ms Amoli Singh¹, Dr Mithun Pai BH²**¹Student, Manipal college of dental sciences, Mangalore, Manipal University, ²Reader, Department of Public Health Dentistry, Manipal college of dental sciences, Mangalore, Manipal University.*

Objectives: to investigate association between psychosocial aspects and mobile phone use in a cohort of dental students in Mangalore city using a questionnaire. **Materials and Methods:** A cross-sectional study evaluated mobile phone usage and psychosocial factors in dental students. The outcome variable stress was measured by a single item questionnaire. The Sleep disturbances were measured by Karolinska Sleep Questionnaire, depression was measured by PHQ-9. Students pursuing third year dentistry in Manipal College of Dental Sciences, Manipal University were included in the study. Mean (X) and Standard Deviation (SD) was calculated. The Chi square and Fisher's exact tests were used for comparison of categorical data. **Results:** A Total of 82 respondents answered the questionnaire of which 65 (79.3%) were females. All the respondents had a mobile. There was a significant association between awareness of mobile phone use and stress ($p=0.001$) and a positive correlation between gender and stress ($r=0.444$), when regressed to age and gender, there was a positive relation between mobile phone use, gender and distance from home. **Conclusion:** The study concludes that the use of mobile phones is quite common among students perusing dentistry. Females have a higher anxiety and stress related to mobile phone usage. To decrease this mobile related psychosocial problems to a certain extent, parents, doctors and the teachers are required to play a key role and widen their horizon regarding the use of cell phones.

S-0P 12**Relationship of arch base length and dental crowding in different skeletal relationships.***Anis Najihah Mohd Ismail¹, Noor Aini Mansor¹, Nagham Mohammed Abdullah², Farhana Rahman³**¹Faculty of Dentistry, ²Centre of Pediatric and Orthodontics Studies, ³Centre of Comprehensive Care Studies Faculty of Dentistry Universiti Teknologi MARA, Shah Alam Selangor Darul Ehsan.*

Objectives: To assess the maxillary and mandibular effective lengths in a Malaysian population sample and verify the relationship between maxillary and mandibular effective lengths and dental crowding in patients with different skeletal relationships. **Materials and Methods:** A sample of 96 subjects was divided into three skeletal relationships and was further divided into 2 groups based on the amount of maxillary and mandibular arch crowding. The maxillary and mandibular effective lengths were measured on cephalometric radiographs. Descriptive statistics and Analysis of Variance (ANOVA) were used for analysis. **Results:** Malaysian population has the smallest mean value of maxillary and mandibular effective length compared with other populations. The relationship between maxillary and mandibular base length in all skeletal classes was statistically significant ($r:0.890, p=0.000$). However, no statistically significant differences were found for maxillary ($p=0.090, p=0.300$) and mandibular ($p=0.272, p=0.304$) base length for group 1 ($<4\text{mm}$) and group 2 ($>4\text{mm}$) crowding among different skeletal patterns. Similarly, no statistically significant differences were found in maxillary and mandibular base length between 2 groups of crowding in Class I ($p=0.825, p=0.813$), Class II ($p=0.103, p=0.847$) and Class III ($p=0.679, p=0.702$). **Conclusions:** The maxillary base length is highest in Class I, followed by class II and Class III. The mandibular base length is highest in Class III, followed by Class I and Class II. A baseline data for maxillary and mandibular effective arch lengths for Malaysian population was established in this study. Very strong correlation was found between maxillary and mandibular base length in all skeletal classes, with the strongest correlation being in skeletal Class III malocclusion.

S-OP 13

Attitudes towards Oral Hygiene- Awareness & Practice among Adolescent: A Suburban School-Based Survey.

Alyaa Syazana Razali¹, Norazuwa Hazman¹, Vivi Noryati Ahmad², Zatilfariyah Rasdi²

¹Faculty of Dentistry, ²Centre of Preclinical Science Studies, Faculty of Dentistry, UITM, Shah Alam, Selangor Darul Ehsan.

Objectives: To assess knowledge, attitude and practice among suburban school children with respect to oral hygiene.

Material and methods: A cross-sectional study was conducted from October 2014 until February 2015 in two selected public schools in Puncak Alam. A self-administered questionnaire was implemented to 252 participants based on uncontrolled quota sampling to retrieve information. The questionnaire comprises of socio-demographic characteristics, knowledge about oral hygiene, attitude towards oral hygiene, and practice for prevention of oral disease. Data were analysed by using SPSS version 21. **Results:** Current study indicated low level of awareness for oral hygiene except for effect of caries on teeth appearance (87.3%) and prevention of tooth decay by tooth brushing (81.3%). About 75.4% adolescent were not aware regarding knowledge of dental plaque. 95.2% used toothbrush and toothpaste as their oral hygiene aids. However, 81.3% did not use floss. Attitude towards oral hygiene are still lacking, nevertheless majority of the respondents have slight negative view toward dental visit which mostly influence by their anxiety. However, they believe that oral health is important to be taking care as much as other part of their body. **Conclusion:** This study revealed deficient oral hygiene awareness among suburban school students. Thus, highlights the need of public oral health education aimed to enhance awareness of oral hygiene among young population. Comprehensive oral health educational programs and activities involving suburban school in Malaysia are recommended. Role of teachers, parents and society are very important to improve awareness, attitude and knowledge among young generation.

S-OP 14

Knowledge about informed Consent and its association with socio-demographic factors in coastal India - A Hospital based cross sectional study.

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Objective: To determine the Knowledge, Attitude and Opinions of patients towards informed consent in a dental hospital and its relation to anxiety using a questionnaire. **Materials and Methods:** This was a cross-sectional study carried out in the outpatient department of Manipal College of Dental Sciences, Mangalore. A modified Dawes questionnaire to suit dentistry was used to assess knowledge, attitude and opinions about informed consent. Prior Informed consent was obtained from the study subjects. Chi-square test and Fishers exact test were used for categorical data. T test and ANOVA were used for parametric data. Ethical committee clearance was obtained from the institutional ethical committee of Manipal College of Dental Sciences, Mangalore prior to the study process. Informed consent is obtained from the subjects prior to the distribution of questionnaire. **Results:** A convenient sample of 150 patients were included in the study, of which, 52 % were female. Majority of the patients knew about the informed consent and thought it was a legal document (56.7%), with the mean anxiety score of 10.65±3.96. About 92% (138) were satisfied with the amount of information provided. But 52% of patient felt "The reason for the treatment" to be told before the procedure. This result was statistically significant (p=0.001). **Conclusion:** This study explores a very vital link in the dental treatment. The results demonstrate need for detailed study in nature of information provided to the patients.

Evaluation Of Root Debridement Skill In Periodontology Pre-Clinical Module Among Year 3 Dental Students.

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Objective: To evaluate the root debridement skill in periodontology pre-clinical module among year 3 dental students and to estimate the effectiveness of conducting periodontology pre-clinical module before entering clinical module. **Material and Methods:** A total of 47 year 3 students were included in this study. Single rooted extracted teeth were collected, mounted on acrylic resin and set into the level of 1/3 of the root length. In 2012, each of them was given the mounted teeth and instructed to perform root debridement procedure on the labial surface only within 10 minutes using Gracey curette #5/6. The similar samples were distributed back to the same students (which are already in Year 4) in 2013 to repeat the same procedure on the lingual surface of the same tooth. Root surface roughness was evaluated by using scanning electron microscope (SEM) and profilometer for both labial and lingual surfaces. Statistical analysis was done using Mann-Whitney U test and T-test. Significance level of $p \leq 0.05$ was assumed for all analysis. **Results:** SEM photomicrographs of root surfaces with magnifications of 100x and 800x revealed that there were incomplete removal of the dental biofilm and calculus in both surfaces and significant rough root surfaces noted. **Conclusion:** No significant differences noted between the students' root debridement skill in the year 2012 and 2013. Objectives of the current module were fulfilled but in order to meet the highest standard, current module need to be improved in the future.

"Evaluation of Image Quality of Periapical Radiograph among Undergraduates Student at Faculty of Dentistry UiTM".

Siti Hawa Binti Abdul Razak¹, Sarah Sakinah Binti Mohd Zabidi¹, Afzan Adilah Ayoub²

¹Undergraduate Dental Student, Faculty of Dentistry, ²Centre of Studies for Restorative Dentistry, UiTM Shah Alam.

Introduction: In dentistry, conventional radiography is still a major diagnostic tool compared to other modern imaging techniques. Radiographic errors decrease the rate of accurate diagnosis and treatment planning. Additionally, radiographic retakes cause unnecessary radiation dose exposure to patients, clinicians, radiology staff and the environment, as well as the loss of time and money. Studies have investigated that the rate of retakes required when dental students take diagnostic radiographs is high. Hence, it is mandatory to reduce the number of retakes to reduce patient's exposure. **Objectives:** To determine the factors affecting the image quality of the periapical radiograph and to provide guideline in managing dental radiograph among undergraduates dental students in Faculty of Dentistry UiTM. **Materials and Methods:** 2000 patients' folders were randomly chosen to evaluate periapical radiographs. Angulation, contrast, focus, exposure and processing of each radiograph were assessed and scored, based on The Guidelines on Radiology Standards for Primary Dental Care. A questionnaire exploring the practice and perception of students towards periapical radiograph management were given to 150 clinical year students, from Year 3 until Year 5. The result was assessed using SPSS. **Results:** Major problems that were faced by the students with the film include it turns yellow (50.4%), presence of fingerprints (38.7%), double image (26.1%), presence of unknown artifact (26.9%) and cone cutting (39.5%). Of all the quality measure, none satisfies the Faculty of General Dental Practice (FGDP) standard. **Conclusions:** Based on our result, processing followed by angulation and focus has the highest figure measured that causes errors. Although the student showed confidence in their theoretical knowledge, further training are needed in order to produce a good quality of periapical radiograph and the student are advised to immediately refix the radiograph after developing.

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Objective: Is to measure the level of bone loss of maxilla and mandible induced by *P.gingivalis* and to investigate changes in brain tissue through gram stain and Haematoxylin & Eosin stain (H&E stain). **Materials and Method:** Sample consisted of 4 frozen rabbit heads. Rabbits were divided into two groups, Group1, control group and Group2, experimental, where the rabbits in Group2 were continuously challenged orally with *P.gingivalis* for 12 weeks. Blood sample were taken from each group to be tested for Brain Derived Neurotrophic Factor (BDNF) level. The whole brain taken out carefully. Abnormal changes that seen grossly were recorded. Samples were then sectioned into serial specimens and stained with H&E stain and gram stain to evaluate the pathological changes inside the brain. The maxilla and mandible were separated from the remaining skull and defleshed. Alveolar bone loss was evaluated morphometrically by using Cone Beam Computed Tomography (CBCT). Results were analysed statistically. **Results:** The gross pathology of the experimental group showed oedema, vascular congestion and haemorrhage. BDNF level in experimental group appears to be higher as compared to the control group. Histological analysis in H&E stain of infected group with *P.gingivalis* showed lesions in the cerebral cortex & meninges, with perivascular cuffing. Non-caseating granuloma was observed in the cerebral cortex. In gram stain, it shows clear presence of gram negative rod shape bacteria in experimental group. CBCT images demonstrated significantly higher alveolar bone loss in infected group compared to the control group. **Conclusion:** Results showed brain infection with *P.gingivalis*. Periodontitis were induced by *P.gingivalis*.

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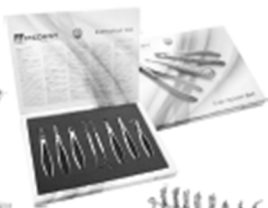
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Impact of Ellagic Acid in Bone Formation after Tooth Extraction: An Experimental Study on Diabetic Rats.

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Objectives: To estimate the effect of ellagic acid (EA) towards healing tooth socket in diabetic animals, after tooth extraction. **Materials and Methods:** Twenty-four *Sprague Dawley* male rats were selected for this study and divided into three groups. The first group was considered as non-diabetic control group. While, the second and third groups were intraperitoneally injected with 45 mg/kg of streptozotocin (STZ), to induce diabetic mellitus. Then, whole animals were anesthetized, and the upper left central incisor was extracted and the whole extracted sockets were filled with Rosuvastatin (RSV). The third group was administrated with EA orally. TNF- α and IL-6 were measured in serum rats. MDA, CAT and SOD were measured in homogenized maxilla tissue. The maxilla tissue stained by eosin and hematoxylin (H&E) was used for histological examinations and immunohistochemical technique to assess Fibroblast growth factor (FGF-2) and alkaline phosphatase (ALP). **Results:** The levels of TNF- α and IL-6 in the diabetic control group were significantly increased, as opposed to the diabetic rat treated with EA ($P < 0.05$). EA treated Diabetic rats showed significant increase in CAT and SOD and significant decreased levels of MDA, compared with untreated diabetic group ($P < 0.05$). Diabetic rats treated with EA, reveals markedly in the coarse meshwork bone formation, and is also evident that, the trabeculae bone is well organized compared with untreated diabetic rats. The reactions of immunohistochemistry for FGF-2 and ALP presented stronger expression, predominantly in EA treated diabetic rats, than untreated diabetic rat. **Conclusion:** These findings suggest that the administration of EA combined with RSV may have accelerated the healing process of the tooth socket of diabetic rats, after tooth extraction.

Bond Failure Rate of Orthodontic Reconditioned Bracket. A Clinical Pilot Study.

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Objectives: To evaluate the bond failure rate of new and reconditioned stainless steel orthodontic brackets; in-vivo. **Materials and methods:** A total of 15 patients with specific criteria were selected from the waiting list of orthodontic clinic Faculty of Dentistry-UITM. The patients were randomly divided into three main groups of five patients each. Fifteen sets of 3M Unitek™ Gemini Brackets were used consisting of 20 brackets of each set. First and second groups were reconditioned using 50 μ m aluminum oxide particle powder for sandblasting and Er,Cr3+:YSGG laser respectively before bonding. The last was a control group. After polymerization, 0.014" NiTi archwire was inserted within half an hour. Monthly follow up of all the patients were done for six months. Bond failure rate was recorded and calculated by percentage of failure. The results were subjected to statistical analysis to identify differences in bond failure rate. ANOVA and Tukey's post hoc test were used to identify the difference. The level of significance was established at $p < 0.05$. **Results:** There was no significant difference between the percentage of bond failure rate of the new brackets and for reconditioned brackets ($p = 0.8$). **Conclusions:** Reconditioned orthodontic brackets using sandblasting and Er,Cr3+:YSGG laser method can be used as an alternative to new brackets following bond failure.

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Objectives: To compare dental arch dimensions and Bolton's ratio in Malay ethnic with different types of malocclusion and skeletal pattern to the Aboriginal population. **Materials and Methods:** 125 subjects from Orthodontic specialist clinic, Faculty of Dentistry, UiTM and 49 subjects of Aboriginal population who fulfilled the criteria were recruited. An electronic digital caliper (accurate to 0.01mm) were used to measure the individual mesio-distal tooth width and arch dimensions. The Bolton's ratio were determined. The skeletal relationship were assessed clinically and the profile photographs were also used. The data were subjected to statistical analysis; Independent sample t-test and ANOVA test to compare the differences. The level of significance difference was established at $p < 0.05$. **Results:** The arch dimensions showed a significant difference ($p < 0.05$) between Malay and Aboriginal population except for ICWL and arch form with different types of malocclusion. There were significant differences in ICWL, IPWU and IPWL between Class I, Class II and Class III skeletal pattern in ethnic Malay compared to Aboriginal population. Both populations showed no significant difference in Bolton's ratio with different types of malocclusion and skeletal pattern. **Conclusion:** Malay ethnic and Aboriginal populations have differences in arch dimensions but similar Bolton's ratio which will reflect on orthodontic treatment planning and its treatment outcomes.

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Objectives: To assess the palatal cortical bone thickness in adult subjects with different skeletal relationships as an aid in planning orthodontic miniscrew placement. **Materials and methods:** The study was carried out using cone-beam computed tomography (CBCT) images of 90 adult subjects with skeletal Class I, II or III relationship. Paracoronal palatal views were reconstructed at 4, 8, and 16 mm posterior to the incisive foramen. In each reconstruction, measurements of palatal cortical bone thickness were taken at the palatal suture, 3 mm and 6 mm bilateral to it. **Results:** Cortical palatal bone thickness 4 mm posterior to the incisive foramen and 3 mm lateral to the midpalatal suture demonstrated the highest mean value in all skeletal classes. Mean values for palatal cortical thickness were highest in Class I, followed by Class II and Class III subjects. Palatal cortical thickness decrease posteriorly for all skeletal classes, this decrease was significant between cortical mean values at 4 mm and 16 mm posterior to the incisive foramen ($P < 0.05$). There were no statistically significant differences between male and female groups or right and left side. **Conclusions:** Anterior part of the palate offers a more favorable position for miniscrews. However for Class I subjects even the posterior part of the palate had cortical bone mean values higher than 1mm. In Class III subjects, it is not recommended to place miniscrews too far posteriorly. Sagittal skeletal relationship need to be considered in site choice for palatal miniscrew placement.

The influence of ceramic veneering technique and coping-veneer ratio on fracture toughness of implant retained zirconia crowns. A pilot study.

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Objectives: To investigate the influence of veneering technique and coping-veneer (C/V) ratio on the fracture toughness of implant retained zirconia crowns (ZrC). **Materials and Methods:** 16 Zirconia copings were divided into 0.5mm and 1.0 mm thickness. Half of the 0.5mm and 1mm copings were veneered with an overall thickness of 3.0 mm and 4mm. Half of all zirconia copings were veneered using build up (BU) and the remaining half using hot press (PR) method. Two metal ceramic crowns (MCC) with C/V ratio of 0.5/2.5mm and an overall thickness of 3mm were used as controls. All specimens were cemented to titanium implant abutments and tested using micro indenter. Crack length, hardness and surface roughness for all specimens was evaluated which was then utilized to calculate fracture toughness. ANOVA was utilized to analyze the results. **Results:** C/V ratios of 0.5/2.5 and 1/3.5 showed significantly better ($p=0.001$) fracture toughness as compared to C/V ratios of 1/2 and 1/3 for the bilayered implant retained ZrC. MCC (0.5/2.5) showed significantly higher fracture toughness ($p=0.01$) as compared to ZrC of similar C/V ratio. Fracture toughness (K_{Ic}) values for PR and BU veneers on zirconia copings of compatible C/V ratios were statistically comparable ($p=0.409$). The mean surface roughness (sa) of all specimens was statistically similar (0.2290 ± 0.0372). **Conclusion:** Within the limitations of this pilot study, fracture toughness of bilayered implant retained ZrC and MCC was improved by increasing thickness of veneering ceramic. Ceramic veneering technique did not influence fracture toughness of bilayered ZrCC crowns.

The association between Vitamin D deficiency and Severe Early Childhood Caries among a group of Malaysian children.

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Objectives: Severe Early Childhood Caries (S-ECC) is a common public health problem worldwide that has an adverse impact on child's health. Clear evidences have shown that severe forms of dental caries were related to the nutritional deficiencies among paediatric population. However, the association between systemic Vitamin D deficiency and dental caries among children remain unclear. The aims of this in-vivo study are to compare the levels of Vitamin D between children with S-ECC and caries-free controls and to investigate the association between Vitamin D deficiency and S-ECC. **Materials and methods:** A case-control study will involve 62 healthy preschool children having S-ECC and going to be treated under general anaesthesia in Sungai Buloh campus, Sungai Buloh and Klang hospitals and 62 caries-free controls. Parents will respond to a face to face questionnaire that focuses on child's oral health, oral hygiene, dietary habits and parents' socio-demographic characteristics. Blood and unstimulated saliva samples will be taken from all participants. Blood samples to determine serum 25(OH) Vitamin D. Saliva samples to assess salivary Vitamin D. Analyses will include descriptive and bivariate analysis as well as linear and logistic regression. A p value ≤ 0.05 is statistically significant. **Expected outcomes:** This study could provide a better understanding about the relationship between S-ECC and Vitamin D deficiency. Moreover, it could provide data on the validity of using salivary sample in assessing Vitamin D status in children.

3D TECA Hydrogel Modulates Cellular Senescence, Reduces Telomere Dysfunction and NFKB - induced DNA Damage Response and Enhances Human periodontal ligament Fibroblasts Migration in Wound Healing.

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¹Faculty of Dentistry, ²Faculty of Pharmacy, ^{1,2}Universiti Teknologi MARA, ³Universiti Malaya.

Objectives: This research is designed to investigate the effect of 3D TECA hydrogel on the inflammatory induced senescence marker, to measure the gel effect on fibroblast telomere length associated with DNA damage response (DDR) and to assess the impact of the gel on the human periodontal ligament fibroblasts (HPDLFs) migration. **Methods:** Nuclear factor Kappa B (NF-KB) of HPDLFs was induced with 10 ng TNF- α in the presence or absence of 50 μ M of 3D TECA gel for 24 hours. The gel effect on the Secretory associated- β -galactosidase (SA- β -gal) activity was measured by a histochemical staining. Fibroblast telomeres length was determined by chemiluminescent assay to ascertain the DDR. For assessing fibroblasts migration, the scratch wound healing assay and Pro-Plus Imaging software were used. **Results:** The activity of senescence marker, SA- β -gal, was positive in the TNF- α induced NFKB cells. SA- β -gal percentage is suppressed (> 30%) in the treated cells as compared to the non-treated cells ($P > 0.05$). Telomeres were significantly longer in TECA treated cells (20.1 kbp) than the control cells (15.2 kbp). Scratch wound test indicated that the cells migration rate was significantly higher (14.9 μ m/hr) in the treated versus (11 μ m/hr) for control HPDLFs. **Conclusion:** Inflammatory induced NFKB results in premature irreversible cell cycle arrest (cellular senescence) of HPDLFs. The new formula of 3D TECA suppressed the inflammatory mediated cellular senescence and reduced DNA damage response. It may preserve the telomere function and rescue tissues regeneration potential during wound closure. The 3D TECA may play a role in restoration of gingival and periodontal structures.

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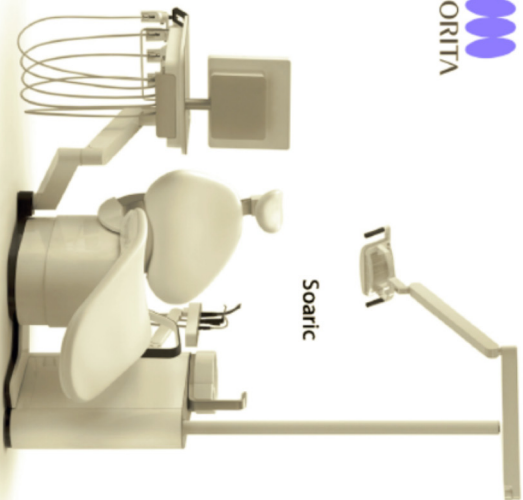
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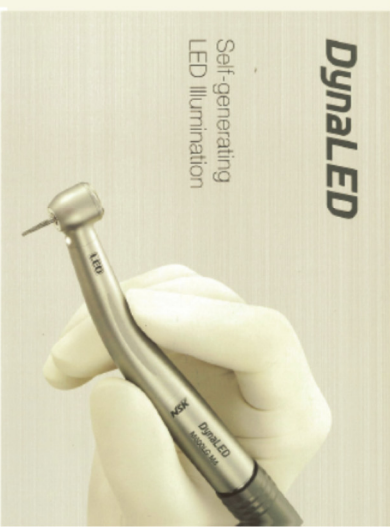
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