

9th Dental Students' Scientific Conference 2020

*"Integrity in Dentistry;
Nurturing Responsible Researchers"*

KULLIYAH OF DENTISTRY
24th FEBRUARY 2020



**KULLIYAH OF DENTISTRY
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA
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MESSAGE FROM THE RECTOR

Assalamualaikum warahmatullahi wabarakatuh,

It gives me great pleasure to pen this message for the 9th Dental Students' Scientific Conference (DSSC) held in Kuantan Campus. I congratulate the Kulliyah of Dentistry, IIUM for organizing this impressive event.

The function of undergraduate training is not only to prepare an individual academically, intellectually and technically for a career in dentistry. It is also an opportunity to equip them with the other skills and attitudes that will be needed when they join the ranks of their professional colleagues. Integrity is generally defined as wholeness, honesty and having strong moral principles. Personal integrity is very important, since a major element of a person's integrity derives from the way in which they are viewed and valued by others. Professional integrity is a measure of the degree to which your own professional reputation and credibility remain intact.

The theme of this conference, **"Integrity in Dentistry; Nurturing Responsible Researchers"** is a great theme for the 9th DSSC. Dental professions are expected to demonstrate a high level of responsibility in daily practice and research. They need do their best to honour any commitments and to keep their promises. They will understand that other people are relying upon them and take these responsibilities seriously.

I am confident that this conference will also pave the way for a better future of the development of dental research. I pray for the event to be a very fruitful and enriching experience for all.

Thank you.

Wassalam.

DZULKIFLI ABDUL RAZAK, PROF EMERITUS TAN SRI DATO'

Rector

International Islamic University Malaysia



MESSAGE FROM THE DEAN

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

السَّلَامُ عَلَيْكُمْ وَرَحْمَةُ اللَّهِ وَبَرَكَاتُهُ

In the name of Allah, Most Gracious and Most Merciful.

Welcome to the 9th IIUM Dental Students Scientific Conference 2020, the meaningful event for Kulliyyah of Dentistry.

“Integrity in Dentistry, Nurturing Responsible Researchers” has been chosen as this year’s conference theme. Responsible research is in line with the ethical values and needs of society. Through this conference it is expected that the dental graduates would be ethical not only in creating new knowledge, but also in expanding the existing knowledge through research activities and disseminating the knowledge to society. Responsible researchers should possess high moral and social values, such as social responsibility, human rights, and public health and safety.

I take this opportunity to congratulate the Organising Committee for their commitment and hard work in between their daily duties to make this event a reality. Special thanks are also extended to the sponsors and contributors for their kind support.

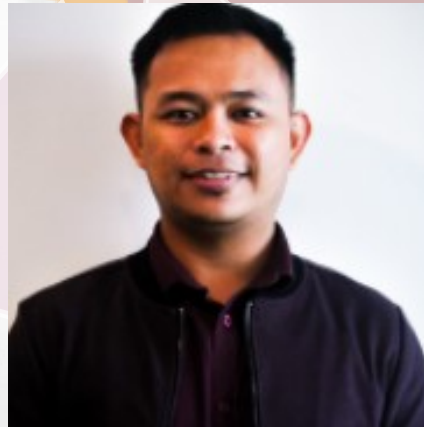
I pray for the event to be a very fruitful and enriching experience for all.

Thank you

ASST PROF DR SALWANA SUPAAT

Dean

Kulliyyah of Dentistry



MESSAGE FROM THE CHAIRMAN

السلام عليكم ورحمة الله وبركاته

In the name of Allah, the most Gracious, the most Merciful, Allah the Almighty.

On behalf of the committee members, I am grateful to welcome all of you to the 9th Dental Students' Scientific Conference (DSSC) 2020.

The theme for this year is, '**Integrity in Dentistry; Nurturing Responsible Researcher**'. Integrity and piety to Allah are the most important elements that should be inculcated among Muslim researcher, specifically IIUM students and staffs. Doing research means that we are exploring the knowledge of Allah, and to share the outcome and finding to the rest of humankind. Therefore, in order to gain *barakah*, research work must be conducted in line with Syariah in all aspects.

Congratulations to all final year students and supervisors for the great research work conducted.

Thank you for the hard work and effort in making this event successful.

Wassalamu'alaikum warahmatullahi wabarakatuh.

DR SULHI BIN ABIDIN

Chairman
9th Dental Students' Scientific Conference
Kulliyah of Dentistry

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SCIENTIFIC PROGRAMME

TIME	EVENT
8.00 -8.30 am	Registration of participants
8.30 -9.00 am	Arrival of Dean, Judges and Guest of Honor
9.00 - 9.15 am	Singing Negaraku, IIUM Song, Recital of Doa and Quran recitation by Dental Student
9.15 - 9.20 am	Welcoming speech by Chairperson
9.20 - 9.25 am	Opening speech by Asst Prof Dr Salwana Supa'At Dean, Kulliyyah of Dentistry, IIUM
9.25 - 9.35 am	Chief editor speech by Professor Zainul Ahmad Rajion “Inaugral ceremony of KOD Journal (IJOHS)”
9.35 - 9.45am	Officiating speech by Guest of Honor
9.45 - 10.00am	Officiating ceremony gimmick
10.00 - 10.30 am	Short lecture by Associate Professor Dr Firdaus Hariri (UM)
10.30- 11.00 am	Morning Tea Break
11.00 - 1.00 pm	Oral and Poster Presentation [Oral: 7 groups / Poster: 7 groups]
1.00 - 1.45 pm	Lecture by Core 3D Centres “Introduction to Digital Dentistry and Toothgraft”
1.45 - 2.00pm	Lunch/Poster viewing/Zuhur prayer
2.00 - 3.45 pm	Oral and Poster Presentation [Oral: 6 groups / Poster: 5 groups]
3.45 - 4.15 pm	Judges Meeting & Students’ performance/ Tea Break
4.15 - 5.00 pm	Closing Ceremony (Head of Judge) & Award Presentation

HONOURABLE JUDGES

Oral Category

Professor Dr Zainul Ahmad Rajion – Chief Judge (Head)

Department of Oral Maxillofacial Surgery and

Oral Diagnosis

Kulliyyah of Dentistry, IIUM

Associate Professor Dr Firdaus Bin Hariri

Deputy Dean of Research and Development

Faculty of Dentistry, University Malaya

Associate Professor Dr Norlelawati Binti A. Talib

Head, Department of Pathology & Laboratory Medicine

Kulliyyah of Medicine, IIUM



HONOURABLE JUDGES

Poster Category

**Associate Professor Dr Raja Azman Raja Awang –
Chief Judge**

Consultant in Periodontics

School of Dental Science, Universiti Sains Malaysia

Assistant Professor Dr Mohd Arifin Bin Kaderi

Department of Biomedical Science

Kulliyyah of Allied Health Sciences, IIUM Kulliyyah of
Science, IIUM

Assistant Professor Dr Norzaiti Binti Kenali

Department of Paediatric Dentistry and Dental Public Health

Kulliyyah of Dentistry, IIUM



List of Oral Presentations



Oral Presentations

NO.	ABSTRACT ID	RESEARCH TITLE	PRESENTERS
1	OBS- 01	FILM REJECT ANALYSIS AND ITS IMPLICATIONS FOR QUALITY ASSURANCE IN IMAGING UNIT OF A DENTAL SCHOOL IN MALAYSIA)	1. ARINA BALQIS BT HASSAN 2. AMANINA BALQIS BT ADHAM
2	OBS- 02	COMPARING FRACTURE RESISTANCE OF DIRECT COMPOSITE VERSUS COMPOSITE ONLAY RESTORATION ON ENDODONTICALLY TREATED UPPER PREMOLAR WITH MESIO-OCCLUSAL-DISTAL (MOD) CAVITY: AN IN-VITRO STUDY	1. FATHAH FASIAH BT MOHD MUTALABISIN 2. FATTIRAH AUNI BT FAUZI
3	OBS- 03	ASSOCIATION BETWEEN DENTAL CARIES AND BODY MASS INDEX (BMI) AMONG PRE-SCHOOL CHILDREN IN KUANTAN	1. ANIS AMIRA BINTI ADON 2. AMYRAH NUR FARIESYA
4	OBS- 04	CYTOTOXIC ACTIVITY OF <i>EURYCOMA LONGIFOLIA</i> JACK AGAINST NASOPHARYNGEAL CARCINOMA CELL LINES	1. NUR HASEENA BT KAJAHMOHIDEEN 2. SITI NURSAYFIQAH BT RAZI
5	OBS- 05	ULTRASTRUCTURAL COMPARISON BETWEEN WET AND DRY BONDING TECHNIQUE OF TWO DIFFERENT SOLVENT-BASED ADHESIVES	1. ASYURA BINTI TALIBE 2. AIN SYAFA SYAHIDA BINTI SHAMSUDDIN
6	OBS- 06	SMOKING BEHAVIOUR AND ASSOCIATED FACTOR OF ILLICIT CIGARETTE USE IN KUANTAN, PAHANG	1. SARAH NADIA HUNSTAD 2. SHARIFAH NURUL AMIRAH BT SYED AHMAD FAUZI
7	OCS- 01	DISTRIBUTION OF CASES ENCOUNTERED IN ORAL MEDICINE UNDERGRADUATE CLINIC: A RETROSPECTIVE ANALYSIS	1. NOR HANISAH SAHAR 2. NADIAH BT KHALIL
8	OCS-02	PREVALENCE, PATTERN AND ATTITUDE TOWARDS SELF-MEDICATION PRACTICE FOR DENTAL PROBLEMS IN KUANTAN, PAHANG	1. MUHAMMAD NABIL B MOHD HARON 2. MUHAMMAD NAZMI B ABDUL MAJID
9	OCS- 03	FUTURE MARKET CHANGES FOR MALAYSIAN DENTAL THERAPISTS: A QUALITATIVE STUDY AMONGST DENTAL THERAPISTS IN THE EAST OF PENINSULAR MALAYSIA ON THEIR CAREER MOTIVATION AND EXPECTATIONS	1. NUR SYAZWANI MOHD RAMLE 2. SITI ZULAIHA BT AHMAD SABRI
10	OCS- 04	A COMPARISON BETWEEN THE EFFECTIVENESS OF VERBAL, VERBAL-WRITTEN AND VIDEO INSTRUCTIONAL METHODS ON THE GINGIVAL HEALTH OF PATIENTS WITH FIXED APPLIANCES: A COHORT STUDY	1. NORUL MADIHAH BT M ASHAARI 2. RAZAN HAYANI BINTI MOHAMAD YUSOFF
11	OCS- 05	RETROSPECTIVE STUDY ON POSTOPERATIVE COMPLICATIONS OF THIRD MOLAR EXTRACTION IN KULLYYAH OF DENTISTRY, IUM	1. MAWADDAH MUNIRAH BT MOHAMAD FADZLI 2. FADHLIN AMALIA BT KAMALUDIN LATIFI
12	OCS- 06	GENETIC EVALUATION, TOOTH MORPHOMETRY AND PATTERN OF PALATAL RUGAE AMONG IDENTICAL (MONOZYGOTIC) TWINS IN MALAYSIA	1. NURLIYANA AFIQAH BINTI ADANAN 2. NUR IZZATI ATTIAH BINTI MOKHTAR
13	OCS- 07	TONGUE TIE RELEASE: MOTHER'S OPINION ON THE TREATMENT OUTCOME	1. NOOR ARISA BINTI MOHAMAD RASHIDI 2. NUR FADZILAH BINTI MD TENI



List of Poster Presentations



Poster Presentations

NO.	ABSTRACT ID	RESEARCH TITLE	PRESENTERS
1	PBS- 01	LEARNING PREFERENCES OF THIRD YEAR KOD DENTAL STUDENTS: TEACHING ROUTINE PROSTHODONTIC PROCEDURES USING TWO DIFFERENT METHODS	1. FAKHRUL ZAMAN BIN MOHAMED ROSNI 2. MUHAMMAD AFIF BIN ASROR
2	PBS- 02	THE RELATIONSHIP OF SECRETORY IgA, pH AND SALIVARY FLOW RATE WITH THE OCCURRENCE OF EARLY CHILDHOOD CARIES	1. MUHAMMAD HAZIM BIN MOHD JEFRI 2. AMARUL FIRDAUS BIN ALIAS
3	PBS- 03	THE EFFICACY AND DURABILITY OF THREE DESENSITISING AGENTS FOR MANAGEMENT OF HYPERSENSITIVE TEETH: AN IN VITRO STUDY	1. FITHRIAH BT IZAHAM 2. KHAIRUNNISA' BT AHMAD KHUSHAIMI
4	PBS- 04	APPLICATION OF PCR-RFLP TECHNIQUE IN THE ANALYSIS OF <i>MYO1H</i> SINGLE NUCLEOTIDE POLYMORPHISM IN MANDIBULAR PROGNATHISM PATIENTS	1. NURFARHANA BINTI MOHD YUSOFF 2. NAJIHAH BINTI KHAJAR
5	PBS- 05	GUTTAFLOW BIOSEAL AS MONOCONE OBTURATION TECHNIQUE IN CURVED ROOT CANALS. A SCANNING ELECTRON MICROSCOPY STUDY	1. HAJAR AR RAHMAH BINTI NASRI 2. INSYIRAH BINTI KAMARULZAMAN
6	PBS- 06	PREVALENCE OF MALOCCLUSION AND ASSOCIATED HABITS OF 4 TO 6-YEAR-OLD PRESCHOOL CHILDREN IN KUANTAN, PAHANG	1. MOHAMAD HAFIZ BIN ABD RAHMAN 2. NUR AISYAH BT HARIS FADZILAH
7	PCS- 01	DEVELOPMENT OF TOOTH VARIATION AMONG MALAY NON-IDENTICAL (DIZYGOTIC) TWINS WITH OPPOSITE SEXED	1. MOHAMAD SYAZWAN BIN IBRAHIM 2. MUHAMAD MUSLIM BIN ISMAIL
8	PCS- 02	OCCUPATIONAL HAZARDS AMONG DENTAL SURGEONS IN IIUM, KUANTAN	1. NURUL AINA SALMI BT RAMLEE 2. NUR ALIA BT MALIKI
9	PCS- 03	A RADIOGRAPHIC RETROSPECTIVE STUDY USING CBCT ON SUPERNUMERARY ROOT (RADIX ENTOMOLARIS AND PARAMOLARIS) AMONG KOD IIUM PATIENTS	1. NUR'AKMAL NABILAH MOHAMAD SHUKRI 2. FAQIHAH ADLINA MOHAMAD NOOR
10	PCS- 04	DIRECT IDENTIFICATION OF ANATOMICAL LANDMARKS TO LOCATE SECOND MESIOBUCCAL CANAL OF MAXILLARY FIRST MOLARS: AN IN-VITRO STUDY	1. MUHAMMAD BAZLI B ISMAIL 2. MUHAMMAD AFIQ AIMAN B MOHD ARIFIN
11	PCS- 05	ASSESSMENT OF GINGIVAL PHENOTYPES AND ITS RELATIONSHIP WITH GINGIVAL HEIGHT, CROWN FORM AND PAPILLA HEIGHT AMONG MALAYSIANS POPULATION	1. FAIZ FAKHRUDDIN BIN JOHARI 2. AHMAD WAFIQ BIN CHE MOOD
12	PCS-06	DENTAL ANXIETY AMONG ADULTS IN KUANTAN AND ITS ASSOCIATION WITH PSYCHOLOGICAL SYMPTOMS	1. NABILA BINTI A RAHAMAN 2. NUR 'AFIRAH BT MALUIN



Abstracts of Oral Presentations



OBS – 01

FILM REJECT ANALYSIS AND ITS IMPLICATIONS FOR QUALITY ASSURANCE IN IMAGING UNIT OF A DENTAL SCHOOL IN MALAYSIA

Amanina Balqis Adham¹, Arina Balqis Hassan@Zakaria¹, Haszelini Hassan², Izzati Nabilah Ismail²

¹ Students, Kulliyyah of Dentistry, International Islamic University Malaysia

² Lecturers, Oral Maxillofacial Surgery and Oral Diagnosis Department, Kulliyyah of Dentistry, International Islamic University Malaysia

Introduction: The goal of radiological examination is to produce high quality diagnostic radiographs, while keeping patient's exposure as low as diagnostically acceptable (ALADA). This study aimed to assess the quality of radiographs obtained and to compare the experience of students with respect to radiographer's experience as a goal standard.

Materials and methods: During a 10-month assessment period, a total of 6388 intra-oral radiographs taken in the Radiology Department at Kulliyyah of Dentistry were subjected to film reject analysis. Chi-square test was used to assess the correlation of repeat rate of different types of radiographs between students and radiographers.

Results: The overall repeat rate due to film rejection is 7.2% (n=460). Among the reasons for radiograph errors reported, positioning fault was the commonest error, followed by patient movement and others. The students showed high repeat rate in periapical radiograph taking (10.1%), in comparison with radiographers (4.7%). Meanwhile, both bitewing and occlusal radiographs showed no association between experience of operator and repeat rate.

Conclusion: Film reject analysis offers a relatively practical way in conducting quality assurance (QA) evaluation in routine radiology procedure. It helps to record image quality while considering the radiation dose to the patient based on ALADA. The causes of error can also be identified and intervened. Therefore, film reject analysis should be conducted frequently as part of a QA program in the Radiology Department.

Keywords: Dental radiography, reject analysis, repeat rate, quality assurance



OBS – 02

COMPARING FRACTURE RESISTANCE OF DIRECT COMPOSITE VERSUS COMPOSITE ONLAY RESTORATION ON ENDODONTICALLY TREATED UPPER PREMOLAR WITH MESIO-OCCLUSAL-DISTAL (MOD) CAVITY: AN IN-VITRO STUDY

Fathah Fasihah Mohd Mutalabisin¹, Fattirah Auni Fauzi¹, Norfaezah Ahmad², Sharifuddin Daud³

¹Student, Kulliyah of Dentistry, IIUM

²Lecturer, Prosthodontics Department, Kulliyah of Dentistry, IIUM

³Lecturer, Restorative Department, Kulliyah of Dentistry, IIUM

Introduction: Endodontic treated teeth are weaker compared to vital teeth due to extensive missing sound tooth structure as the result of previous disease and the endodontic treatment itself. Choosing the definitive restoration for an endodontic treatment teeth (ETT) is a vital process as it will increase the survival of an ETT. Therefore, the aim of this study is to compare and evaluate the fracture resistance and fracture mode of direct composite restoration and direct composite onlay with cuspal coverage performed on endodontically treated upper premolars with mesio-occlusal-distal (MOD) cavity.

Materials and methods: A number of 20 sound upper premolar were collected from local dental clinics. The teeth were mounted in cold cure acrylic and stored in normal saline. Root canal treatment (RCT) followed with MOD cavity preparation were performed on all teeth. Then the teeth were randomly divided into two groups that consist of equally 10 teeth. Teeth in first group, Group A (n=10) were restored with direct composite restoration and teeth in second group, group B (n=10) were reduced occlusally and restored with composite onlay restoration. All teeth were subject to compressive axial load test using universal testing machine, Instron 3369 with metal ball sized 4mm at 1mm/min of crosshead speed until a fracture occurred. Then the mode of fracture was analyzed under stereomicroscope with 0.68 magnifications. Statistical analysis of fracture resistance and fracture mode were performed with Paired T-Test.

Results: The mean value of fracture resistance was 431.37N for group A and 1158.34N for group B. Paired T-test analysis showed that there were statistically significant difference of the fracture resistance ($p < 0.05$) between these two groups. However there was no statically significant difference ($p > 0.05$) showed when mode of fractures were compared.

Conclusion: Within the limitation of this in-vitro study, it can be concluded that endodontically treated upper premolar teeth with MOD cavity restored with direct composite onlay restoration exhibited higher fracture resistance as compared to direct composite restoration and mode of fractures was not affected by the types of restoration.

Keywords: Endodontically treated teeth, direct composite restoration, direct composite onlay.



OBS – 03

ASSOCIATION BETWEEN CARIES EXPERIENCE AND BODY MASS INDEX (BMI) AMONG PRESCHOOL CHILDREN IN KUANTAN

Anis Amira Adon¹, Amyrah Nur Fariesya Husain Ahmad¹, Ahmad Faisal Ismail^{2,3}, Yunita Dewi Ardini²

¹Student, Kulliyah of Dentistry, International Islamic University Malaysia

²Lecturer, Department of Paediatric Dentistry and Dental Public Health, Kulliyah of Dentistry, International Islamic University Malaysia

³Specialist, International Islamic University Malaysia (IIUM) Medical Centre, Pahang

Introduction: Dental caries and obesity are significant and common oral health and general health problems faced by children. Dental caries and obesity are thought to share common risk factors. There are conflicting results in the literatures regarding the association between dental caries and childhood body mass index particularly among preschool children. Thus, this research aims to measure the prevalence of dental caries and determine the relationship between dental caries and body mass index (BMI) among preschool children in Kuantan.

Materials and methods: A cross sectional study was carried out in kindergartens in Kuantan using the convenience sampling method. A total of 180 participants were enrolled in this study with 60 participants each for every group. The participants were classified into underweight, normal and overweight based on their BMI. Their caries index was recorded using WHO guidelines. For BMI, participant's weight and height were recorded and categorized by using the BMI Calculator for Child and Teen (CDC).

Results: Pertaining to dental caries, 73.3% of the participants had dental caries. The overweight group recorded the highest caries index and the highest percentage of visible plaque, but the results were not significant.

Conclusion: Our study concluded that there is no association between dental caries and body mass index among preschool children in Kuantan.

Keywords: Dental caries, body mass index, obesity, preschool children



OBS – 04

CYTOTOXIC ACTIVITY OF *EURYCOMA LONGIFOLIA* JACK AGAINST NASOPHARYNGEAL CARCINOMA CELL LINES

Nur Haseena Kajahmohideen¹, Siti NurSyafiqah Razi¹, Ghasak Ghazi Faisal², Abdelkader Elbadawy Ashour³

¹ Student, Kulliyah of Dentistry, IIUM

² Lecturer, Department of fundamental dental and medical sciences, Kulliyah of Dentistry, IIUM

³ Lecturer, Basic Medical Science Unit, Kulliyah of Medicine, IIUM

Introduction: *Eurycoma longifolia* (*E. longifolia*) or Tongkat Ali is a tree that grows in southeast Asia, the roots of which contains bioactive components that exhibit cytotoxic properties against various cancer cell lines. However, no study has been conducted to relate the cytotoxic properties against nasopharyngeal carcinoma (NPC), a type of cancer that shows poor prognosis for metastatic disease. The purpose of this study was to determine whether the *E. longifolia* root extract exerts cytotoxic activity against nasopharyngeal carcinoma (ORL-115) cell lines.

Materials and method: *E. longifolia* root extracts were obtained through Soxhlet extraction method and by using two different solvent; ethanol and dichloromethane. MTS assay was used to evaluate the cytotoxic effect of the root extracts against ORL-115 cell line for three different incubation time which were 24-hour, 48-hour and 72-hour.

Results: Ethanol extract was significantly more potent compared to DCM extract. Ethanol extract exhibited lower IC₅₀ value compared to DCM extract. The IC₅₀ of ethanol extract were 232.1 µg/ml, 66.86 µg/ml and 42.6 µg/ml. Meanwhile the IC₅₀ of DCM extract were 678.87 µg/ml, 136.71 µg/ml, 73.72 µg/ml for 24-hour, 48-hour and 72-hour incubation period respectively. The cytotoxic activity of both extracts increased as the incubation time prolonged. The cytotoxic activity of ethanol extract at each incubation time was significantly different from DCM extract except at 72 hours.

Conclusion: *E. longifolia* root extracts exerted cytotoxic activity against the nasopharyngeal carcinoma (ORL-115) cell line. Ethanol extract exhibited lower IC₅₀ value compared to DCM extract. The cytotoxic activity of both extracts were dose dependent and time dependent.

Keywords: *E. longifolia*, Cytotoxic activity, Nasopharyngeal carcinoma



OBS – 05

ULTRASTRUCTURAL COMPARISON BETWEEN WET AND DRY BONDING TECHNIQUES OF TWO DIFFERENT SOLVENT-BASED ADHESIVES

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³Medical Laboratory Technologist, Imaging Unit, Kulliyyah of Medicine, IIUM

Introduction: Wet and dry bonding techniques have been well accepted to facilitate clinicians during bonding of composite restoration. Recent universal adhesive system with different solvent types have the ability to overcome excessive moist phenomena or dessication on the dentin surface and crucial in bonding to dentin.

Aim and objectives: To investigate and compare the ultra-structure characteristics of resin-dentin interfaces among two different solvent-based adhesives using wet and dry bonding technique.

Material and methods: 20 molar teeth were cut to produce a flat dentinal surface then divided into two groups of 10 teeth each (G1:TetricNBond Universal, G2:Spectrum Bond). Further subdivided into wet bonding(WD) and dry bonding(DB). Composite (Diafil) incrementally built up with 4mm in height. The specimens were sputter coated and viewed under SEM at 2000x magnification. SEM pictomicrographs were taken from the interface to observe the bonding interface and analyzed by three calibrated examiners. Each micrograph was classified as follows: 0= absence of resin tag, 1= ≤ 10 resin tag/field, 2= ≥ 10 tags/field and 3= 2+abundant inter-tag complex.

Results: There was a significance increase of resin tags morphology of the dentine/resin interface in G2 under wet bonding technique, revealing higher numbers of tag penetration as compared to G1 ($p < 0.05$) (Kruskal-Wallis test). There was no statistically significant difference between wet and dry-bonding technique at the interface ($p > 0.05$) (Mann-Whitney U-test).

Conclusion: Acetone based adhesive produce a better water chasing ability as compared to ethanol-water based, thereby this factor affected the resin tags quality pattern. The results suggested that morphology of resin tags depended on the types of solvent of the adhesive used.

Keywords: Adhesive, resin tag, wet bonding, dry bonding, solvent.



OBS – 06

SMOKING BEHAVIOUR AND ASSOCIATED FACTOR OF ILLICIT CIGARETTE USE IN KUANTAN, PAHANG

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Introduction: Cigarette usage maintains as a concerning global health issue, especially with the expanding illicit cigarette spread and consumption. Therefore, it is important to understand the factors which contribute most to this issue. The objectives of this study are to investigate the characteristics of illicit cigarette smokers in Kuantan, to compare the smoking behaviour and associated factors between illicit and non-illicit cigarette use; and to investigate the most common illicit cigarette brands used in Kuantan.

Materials and methods: A cross-sectional study was done in Kuantan, Pahang by recruiting 100 participants, comprising of 50 illicit and 50 non-illicit cigarette smokers. Participants were selected through snowballing technique. A survey was conducted by distributing questionnaire modified and translated from Global Adult Tobacco Survey.

Results: Illicit cigarette smokers were characterized by not married, no medical illness, lower total household income and higher frequency of smoking as compared to non-illicit cigarette smokers. They were aware of using illicit cigarettes and low price is the main reason to smoke. Friends were the main source of information to buy and spread illicit cigarette. The famous brands were tally with the top brand findings from the Illicit Cigarette Study in Malaysia, Wave 1 Report 2019.

Conclusion: Illicit cigarettes use has become acceptable among the population in Kuantan especially lower income group, as it is cheaper and accessible through social networking and friends who use it.

Keywords: smoking behaviour, associated factor, illicit cigarette



OCS – 01

DISTRIBUTION OF CASES ENCOUNTERED IN ORAL MEDICINE UNDERGRADUATE CLINIC: A RETROSPECTIVE ANALYSIS

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Introduction: Oral medicine (OM) is a dental specialty concerning diagnosis and non-surgical management of oral condition that closely related to medical disorder. Knowledge on the distribution of disease is important in giving insight to the oral health care provider on the disease pattern and disease burden in a focused population.

Aim: To evaluate distribution of OM cases encountered in IIUM dental clinic and to determine the relationship with sociodemographic background by disease category.

Materials and methods: Students' OM logbooks were collected from four academic years using convenient sampling. The disease category was formulated based on previously published studies. The total cases obtained were classified into 22 diagnosis codes and analysed using SPSS version 23.

Results: A total of 1917 cases have been recorded by the undergraduate dental polyclinic from four academic years. The highest frequency of OM case encountered was oral ulcers (31%), followed by temporomandibular disorder (TMD) (23%), and pericoronitis (10%). In contrast, the least common cases were lichen planus (0.4%), oral potentially malignant disease (0.3%), and tumour (0.2%). With regards to the age group, those aged between 21 and 30 years old were mostly reported during the observation period.

Conclusion: The current study has successfully determined the most common OM cases encountered in IIUM undergraduate dental clinic. This may portray the disease burden in Kuantan population in general. It also could serve as a baseline data for future studies of OM cases in the general population at a national level.

Keywords: Oral medicine, retrospective, case distribution



OCS – 02

PREVALENCE, PATTERN AND ATTITUDE TOWARDS SELF-MEDICATION PRACTICE FOR DENTAL PROBLEMS AMONG ADULTS IN KUANTAN, PAHANG

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Introduction: Self-medication is a common practice worldwide, but there is no self-medication study focusing on dental problems in Malaysia. **Aims and objectives:** This study aims to determine prevalence, pattern and attitude of self-medication practice for dental problems among adults in Kuantan, Pahang as well as to study association of this practice with socio-demographic factors.

Materials and methods: This cross-sectional study was conducted among adults aged 18 years old and above who lives in Kuantan, Pahang. The questionnaire set was constructed, face-to-face validated and was checked for reliability during pilot study on 54 respondents. Main study using web-based and paper-based questionnaire gathered 275 respondents. Descriptive statistics and chi-square test was run using SPSS software.

Results: Majority of respondents were Malay (97.5%), aged 18 to 27 year-old (82.2%), lived in urban area (70.5%) and were graduates with at least Diploma level (73.1%). Only one-fifth of respondents (21.8%) practiced self-medication for dental problems. They gained information regarding self-medication for dental problems mainly from internet (62%) and obtained the medication from pharmacy (78%). The common cause for self-medication is toothache (76%) and majority of them used paracetamol (62%) for relief. The main cause to self-medicate was due to mildness of illness (60%). Respondents have negative attitude towards self-medication practice for dental problems.

There was significant association between this practice with gender, $\chi^2 (1, N = 275) = 4.916, p < 0.05$.

Conclusion: Prevalence of self-medication practice for dental problems among adults in Kuantan is considerably low and they have negative attitude towards this practice.

Keywords: Prevalence, pattern, attitude, self-medication, adult



OCS – 03

FUTURE MARKET CHANGES FOR MALAYSIAN DENTAL THERAPISTS: A QUALITATIVE STUDY AMONGST DENTAL THERAPISTS IN THE EAST OF PENINSULAR MALAYSIA ON THEIR CAREER MOTIVATION AND EXPECTATIONS

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Introduction: The dental workforce in most countries is facing unprecedented changes. Malaysia has responded by approving the legislation for the registration of dental therapists under the Dental Act 2018. **Aim:** To identify the potential market changes of future dental professionals in Malaysia from the perspectives of dental therapists in East Peninsular Malaysia on their career motivation and expectations. **Material and methods:** Dental therapists from two dental organisations in East Malaysia were invited to participate in an audiotaped semi-structured interview (n=26); using a pre-tested topic guide. The qualitative data was transcribed and analysed using a Framework Analysis.

Results: Dental therapists have moderate to high perception of knowledge and awareness of the provision of the Dental Act 2018. The expansion of the working sector and patients' age-group has changed their short and long-term career expectation; mainly professional goals, working pattern and sector (public or private). Furthermore, the respondents' perceptions are influenced by financial factor and work-life balance. Nevertheless, the Malaysian dental therapists share the same career motivations as the dentists.

Conclusion: Dental therapist' views on their career motivation and expectations broadly mirror their dentist counterpart and dental therapists in other countries. Their implications for the future, including possible uncertainties, particularly in regards to the privatization of the workforce were identified; and the tension of balancing practitioners/public health needs with their professional career expectations. This research highlights the influence of dynamic changes in market policy regarding workforce mobility and the importance of flexible strategies for the training, recruitment and retention of dental therapists.

Keywords: Malaysian; dental workforce; dental therapist; career motivation; career expectation



OCS – 04

A COMPARISON BETWEEN THE EFFECTIVENESS OF VERBAL, VERBAL-WRITTEN AND VIDEO INSTRUCTIONAL METHODS ON THE GINGIVAL HEALTH OF PATIENTS WITH FIXED APPLIANCES: A COHORT STUDY

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Introduction: Orthodontic treatment causes detrimental effects on the periodontal health due to the accumulation of dental plaque around appliance components. This problem can be prevented by implementing effective oral hygiene instructions (OHI). This study aims to improve the oral hygiene of adolescent patients wearing full fixed appliances, with specific objectives to compare the effectiveness between three OHI methods (verbal, verbal-written and video) on the gingival health and to assess the best method in providing OHI to patients wearing fixed appliances.

Materials and methods: 39 patients with a mean age of 16.8 wearing upper and lower fixed appliances were divided into three OHI groups with five minutes standardized time allocation for each technique. Gingival health was assessed using plaque index (PI), gingival index (GI), and bleeding on probing (BOP). The mean percentage difference between pre- and post-OHI was calculated and analysed after 6 weeks. **Results:** All periodontal parameters showed a reduction in their mean % in all OHI groups after 6 weeks, with significant decrease in verbal-written and video groups ($p < 0.05$). Verbal group showed significant reduction for PI after 6 weeks ($p = 0.012$). Overall, there was no significant difference between the effectiveness of the three OHI groups in the mean % reduction of PI, GI and BOP.

Conclusions: Whilst verbal method is effective in improving the PI, verbal-written and video methods were effective in improving all aspects of gingival health (PI, GI and BOP) in patients wearing fixed appliances. However, there is no single best method in delivering OHI to patients with fixed appliances.

Keywords: Orthodontics, fixed appliance, oral hygiene instruction, gingival health, dental plaque



OCS – 05

RETROSPECTIVE STUDY ON POSTOPERATIVE COMPLICATIONS OF THIRD MOLAR EXTRACTION IN KULLIYAH OF DENTISTRY, INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

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Introduction: The most common impacted teeth in adults are the mandibular third molars which frequently require surgical extraction. There are many factors contributing to the occurrence of postoperative complications, one of which is surgeon's experience. Hence, this study aimed to determine prevalence of postoperative complications of third molar extractions by different level of surgical experience.

Materials and methods: A retrospective study was conducted in Kulliyah of Dentistry, International Islamic University Malaysia. A total of 112 cases were collected from the records of surgical extraction of lower third molars performed by dental students, dental officers and specialists and transferred into special case sheets. The data were analyzed using IBM SPSS 23.

Results: From 112 cases 57.1% had presented with postoperative complications. The highest prevalence of postoperative complications is dental students group (59.4%), followed by specialists (31.3%) and dental officers (9.4%). Meanwhile, the common complications observed were pain (33.9%), swelling (20.5%), trismus (12.5%), paresthesia (6.3%) and bleeding (3.0%).

Conclusion: Level of experience of the operator does not affect prevalence of postoperative complications following lower third molar removal.

Keywords: Postoperative, Complications, Lower, Third Molar, Extraction.



OCS – 06

GENETIC EVALUATION, TOOTH MORPHOMETRY AND PATTERN OF PALATAL RUGAE AMONG IDENTICAL/MONOZYGOTIC (MZ) TWINS IN MALAYSIA

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Introductions: Monozygotic (MZ) twins share the same DNA, placenta and amniotic fluid. Additionally, MZ twins have the same physical features, which indicates the significance of genetic factors in physical appearance, including dental morphology, compared to environmental factors. Knowledge of variation in human dental features, including tooth morphometry and palatal rugae pattern in MZ twins can be a useful tool in forensics for the identification of individuals.

Material and methods: A sample of 10 pairs of MZ twins were selected for this research. The maximum coronal mesiodistal and buccolingual dimension of the maxillary teeth, excluding the second and third molars were measured in triplicate using calipers. Palatal rugae pattern was cast on study model, analyzed and recorded based on shape and unification.

Results: Our results showed significant tooth dimension correlation between MZ twins. Maxillary central incisors showed the least amount of genetic variability, while other dental features such as Carabelli trait, skeletal pattern, occlusion and occlusal traits showed stronger association in MZ twins. Our results provide remarkable evidence for dental feature and palatal rugae pattern mirror imaging in MZ twins.

Conclusions: This study on tooth morphometry and palatal rugae pattern in monozygotic twins is the first reported in Malaysia. Marked similarities in tooth morphometry and other dental physical features was observed between twins except palatal rugae.

Keywords: Monozygotic twin, tooth morphometry, palatal rugae pattern, mirror-image



OCS – 07

TONGUE TIE RELEASE: MOTHER'S OPINION ON THE TREATMENT OUTCOME

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Introduction: Tongue-tie or ankyloglossia is a congenital condition of a thickened, tightened or shortened frenulum. This condition may cause breastfeeding difficulties to both mother and baby such as ineffective suckling and painful sore nipple. Besides, in older children, it can cause speech articulation difficulties. There are limited studies investigated on mother's experiences on breastfeeding post frenotomy. This study aimed to understand the breastfeeding experiences of women whose baby has underwent frenotomy.

Materials and methods: This qualitative study was done on 15 mothers whose baby had tongue tie and underwent frenotomy from 2017 till 2019. Data were collected using interviews, transcribed, translated and analyzed according to themes.

Results: The analysis revealed a common story of stressful challenges and maternal expectation faced (80%), the frenotomy procedure was easy, simple and less intensive according to mothers' opinion (100%) and the outcome of tongue tie release treatment was positive (100%). The challenges submerged as in themes of symptoms and relief.

Conclusion: The mothers in this study described that breastfeeding was stressful where their babies feed on longer duration, not being full and painful. However following frenotomy, their breastfeeding experiences improved dramatically.

Keywords: Tongue tie, maternal experiences, frenotomy



Abstracts of Poster Presentations



PBS– 01

LEARNING PREFERENCES OF THIRD YEAR KOD DENTAL STUDENTS: TEACHING ROUTINE PROSTHODONTIC PROCEDURES USING TWO DIFFERENT METHODS

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Introduction: Video-based teaching (VBT) method was introduced in prosthodontics to supplement the conventional method of power point lecture (PPL) to effectively deliver preclinical knowledge prior to hands-on-simulation.

Aim: To identify learning effectiveness and preferences between the PPL and VBT methods in a fixed prosthodontics classes amongst first-year clinical dental students (Year-3) at International Islamic University of Malaysia (IIUM).

Method: A cross-over study design comprising teaching sessions (PPL and VBT methods), test assessment and questionnaire on onlay-subjects were conducted amongst third-year dental students (n=57) at IIUM in 2019. They were divided into 2 groups; exposed by different method of teaching; followed by other method. They were tested twice for teaching effectiveness in each session and survey preference post-combined methods. Data were analysed using SPSS v25, includes pre and post-tests.

Results: All 57 students participated. The test score for group A (first-exposed to VBT) is significantly higher than students in group B (first-exposed to PPL) [$p=0.034$]. Nevertheless, each group shows an improvement in their score and were significantly different post-implementation of both methods (Group A [$p=0.002$]; Group B [$p=0.003$]). Combination methods of VBT-PPL (43.9%) was perceived as greatest preference. More female significantly perceived VBT content is just right ($p=0.010$) and could not completely replaced the PPL and be the only method ($p=0.031$) than male.

Conclusion: Third-year IIUM dental students demonstrated that VBT is required to complement and combined with the PPL to provide a better understanding of prosthodontics subject; specifically, for the onlay-topic. There were variations in students' preference by gender.

Keywords: power point lecture, video-based teaching, assessment, questionnaire.



PBS – 02

The relationship of secretory IgA, pH and salivary flow rate with the occurrence of early childhood caries

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Introduction: Salivary secretory immunoglobulin A (SIgA) has immunological control over dental caries and presumably prevents the adherence of cariogenic microorganisms to the hard surfaces, relation between SIgA and dental caries still in controversy. This study aims to investigate the relationship of SIgA, salivary flow rate and pH with the occurrence of Early Childhood Caries (ECC).

Materials and methods: A total of 36 patients aged 2-5 years old were divided into 3 groups, according to their caries status (caries-free, ECC and Severe ECC). The subjects were selected based on inclusive and exclusive criteria needed. ECC and Severe ECC were diagnosed based on AAPD guidelines. Score of dmft was recorded. Unstimulated salivary flow rate and pH were measured. The samples were analysed for determining the SIgA level.

Results: Mean value of IgA levels in ECC group (2404.6516 ng/mL \pm 395.03208 ng/mL) was higher compared to other caries status group, although there was no significant relationship as the p-value is 0.404. Median values of salivary flow rate & salivary pH showed no significant difference between 3 caries status groups which p-value is 0.701 & 0.227 respectively.

Conclusion: The result for this study showed higher level of secretory Immunoglobulin A (SIgA) in Early Childhood Caries (ECC) group although the result was not significant. Salivary flow rate and pH have not significant effects on the occurrence of ECC. However, the highest median value for flow rate and pH are seen in the Severe-ECC group.

Keywords: Secretory Immunoglobulin A, Salivary Flowrate, pH, Early Childhood Caries.



PBS– 03

THE EFFICACY AND DURABILITY OF THREE DESENSITISING AGENTS FOR MANAGEMENT OF HYPERSENSITIVE TEETH: AN IN VITRO STUDY

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Introduction: Dentine hypersensitivity (DH) is a brief and acute pain produced when dentine is subjected to various stimuli. DH can affect a person of any age. The treatment for DH has been classified by mode of delivery as at-home (patient applied) therapy and in-office (professional/dentist-applied) therapy. It has been proved that desensitising agents have the capacity for occluding dentinal tubules.

Materials and methods: Twelve (12) non-carious extracted human permanent premolars were sectioned into dentine layer. The 12 dentine disc specimens were divided equally into 4 groups. Each group were applied with 8% arginine-calcium toothpaste, 0.24% sodium fluoride toothpaste, potassium nitrate toothpaste and distilled water respectively. A Scanning Electron Microscope (SEM) is use to evaluate the magnitude changes of dentinal tubules post treatment with the desensitising toothpastes in terms of the efficacy and durability at day 1, week 1 and week 3 after application. The data will be analysed by analysis of varians (ANOVA) using the Statistical Package for the Social Sciences (SPSS) software (version 19.0). **Results:** All toothpastes demonstrated significant dentinal tubule occlusions. However, 8% arginine-calcium toothpaste showed the greatest percentage of occlusion at day 1 and remained demonstrating the greatest percentage of occlusion i.e. the smallest magnitude of changes of the dentinal tubule occlusion at week 3.

Conclusion: The result of this study showed that 8% arginine-calcium toothpaste is the most effective and durable.

Keywords: dentine hypersensitivity, desensitising agent, 8% arginine-calcium, 0.24% sodium fluoride, potassium nitrate toothpaste.



PBS – 04

APPLICATION OF PCR-RFLP TECHNIQUE IN THE ANALYSIS OF *MYO1H* SINGLE NUCLEOTIDE POLYMORPHISM IN MANDIBULAR PROGNATHISM PATIENTS

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Introduction: Genetic studies have reported the associations between polymorphism in *MYO1H* gene with mandibular prognathism. *MYO1H* is found in skeletal muscle sarcomeres and is expressed in the mandibular jaw cartilage, hence signifies its importance during craniofacial development. This study aimed to detect the presence of *MYO1H* single nucleotide polymorphism (SNP) (rs3825393) and to determine its genotype and allele distribution in Class III malocclusion among Malay population. The association between *MYO1H* SNP (rs3825393) and mandibular prognathism was determined.

Material and methods: This case-control study involved 57 Malay subjects: 30 Class I (control) and 27 Class III skeletal base patients. Cephalometric measurements were taken prior to saliva samples collection. SNP of *MYO1H* (rs3825383) was genotyped using polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP). Chi-square test was used to compare genotype and allele frequencies between the groups while Hardy-Weinberg Equilibrium (HWE) was applied to assess distribution of genotype frequency in both classes.

Results: Presence of *MYO1H* SNP (rs3825393) was detected in samples analyzed. No significant difference was observed in allele ($p>0.05$) and genotype ($p>0.05$) frequency between control and study group. No significant association between *MYO1H* SNP (rs3825393) with mandibular prognathism was detected ($p=0.33$; OR=0.66; 95% CI=0.289~1.518). The genotype distribution in both groups was consistent with HWE ($p>0.05$). Interestingly, we observed that allele A represent major allele frequency in our population.

Conclusion: Our data showed no association between *MYO1H* SNP (rs3825393) and mandibular prognathism in local population. Larger number of samples is required to further ascertain the involvement of *MYO1H* polymorphisms in malocclusion.

Keywords: mandibular prognathism, *MYO1H*, rs3825393 SNP, PCR-RFLP



PBS– 05

GUTTAFLOW BIOSEAL AS MONOCONE OBTURATION TECHNIQUE IN CURVED ROOT CANALS. A SCANNING ELECTRON MICROSCOPY STUDY.

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Introduction: The obturation with GuttaFlow Bioseal (GFB) is not clearly investigated due to the newer generation of root filling material. This study evaluated the volumetric percentage of obturated root canals (VPORC), extrusion of root filling material beyond the apical foramen (ERFM) and duration of obturation procedure (DOP) in curved root canals.

Materials and methods: Access cavity was prepared on twenty human mandibular first molars. The root canal curvature of more than 10° determined according to Schneider's method was included. Samples were prepared using Hyflex CM rotary files and divided into 2 groups (n=10). Group 1 [gutta-percha (GP) cone and GFB] and Group 2 [GP cone and RoekoSeal Automix root canal sealer]. The DOP was recorded and the obturation radiograph was taken. Samples were bisected and the mesial roots were sectioned horizontally to obtain 3 resected roots; apical 1/3, middle 1/3 and coronal 1/3. Then, mounted on brass stubs, sputter-coated with thin platinum coating and observed under scanning electron microscope at 70x magnification. The images were transferred to the SketchAndCalc Area Calculator software. The data was analysed using SPSS version 25.0.

Results: The VPORC and ERFM between Group 1 and Group 2 showed no statistically significant difference irrespective of the status of root canal curvature. The DOP in severe root canal curvature between Group 1 and Group 2 revealed statistically significant difference.

Conclusion: The VPORC and ERFM were not affected by the status of root canal curvature. The DOP with GFB in severe root canal curvature was slightly longer.

Keywords: GuttaFlow Bioseal, scanning electron microscope, moncone obturation, curved root canals, mandibular first molars



PBS – 06

PREVALENCE OF MALOCCLUSION AND ASSOCIATED HABITS IN 4 TO 6-YEAR-OLD PRESCHOOL CHILDREN IN KUANTAN, PAHANG.

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Introduction: This study was conducted to investigate the prevalence of malocclusion and their associated habit in the deciduous dentition of preschool children in the city of Kuantan, Malaysia.

Material and methods: This study was conducted in IIUM Specialist clinic setting where the sample selected were children from 4 different preschools aged between 4-6 years old. Questionnaire and consent forms were distributed to their guardians and collected a week before the study. The children's dentition was examined and all malocclusion present was recorded. The association between malocclusion and oral habits was analyzed using SPSS.

Results: A total of 76 preschool children participated in this study and 55.3% of the children presented with dental malocclusion. The highest malocclusion recorded in sagittal direction was reduced overjet (28.9 %), whereas for malocclusion in transversal direction, midline deviation showed the highest percentage of 30.3%. Deep overbite showed the highest percentage of malocclusion in vertical direction which was 28.9%. Bottle feeding recorded the highest incident of oral habit with 23.7% followed by nail biting and object biting. A significant association between increase overjet and bottle feeding ($p < 0.05$) as well as relationship between pacifier and anterior open bite ($p < 0.01$) were established.

Conclusion: The prevalence of malocclusion in primary dentition was high and significant association between oral habits and the development of malocclusion in deciduous dentition was demonstrated.

Keywords: Malocclusion, Orthodontics, Epidemiology, Oral habits.



PCS– 01

DEVELOPMENT OF TOOTH VARIATION AMONG MALAY NON-IDENTICAL (DIZYGOTIC) TWINS WITH OPPOSITE SEXED

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Introduction: Twins are very special as they disentangle the sharing of genes and environments. The understanding about roles of genetic and environment can be obtained by studying twins. Gender differences in terms of growth spurts, hormonal, psychological and other features including tooth development are fascinating to observe. This research will focus on dizygotic twin with opposite-sexed to analyse the tooth morphology variation and dental age.

Material and methods: 5 pairs of twin were succeeded to participate in this study. The DNA zygosity was determined from their birth certificate. Development of tooth variation and age determination were evaluated. General dental charting, diet habit and DMFT examination were assessed during clinical examination. Measurement of tooth variation was analysed on the study model and intra oral pictures. Data were compared within their pair using non-parametric analysis. Crown length, number of tooth, tooth occlusion, crowding and rotation were observed. Determination of age was analysed using stage development on third molars on Panoramic x-ray for adult and by referring to Atlas human tooth development and eruption Queen Mary for kids.

Results: One pair of twin shows difference in Carabelli's trait. The dental ages of three (3) pairs were same, while another 2 pairs showed differences. Analysis using nonparametric pair two samples for development of tooth and dental age between male and female on twins in this study was $p=0.083$.

Conclusion: There are no significant differences of tooth variation and dental age between male and female of the twins. Even though, some of the traits show differences in presence of cusp of carabelli and dental age.

Keywords: Dizygotic twins, Tooth variation, Dental age



PCS – 02

OCCUPATIONAL HAZARDS AMONG DENTAL SURGEONS IN INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA, KUANTAN.

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Introduction: Dental professionals may be at risk for exposure to numerous occupational hazards. These include the bloodborne pathogens, pharmaceuticals, ergonomic hazards, noise, vibration and workplace violence. Therefore this study has been carried out with the objective to assess the awareness level, their experience and preventive measure taken in minimising occupational hazard.

Materials and methods: A cross-sectional study was conducted in International Islamic University Malaysia (IIUM), Kuantan involving dental surgeons by using universal sampling. A self-administered validated questionnaire was distributed and descriptive analysis was performed.

Results: Overall response rate was 78%. Results indicated that majority of participants (82%) declared that they had correct posture while practice dentistry and 87% of the participants take a break in between dental procedure. However, 66.7% of the participants revealed that they bend their neck or back during procedures. The most reported pain area was at shoulder and neck, followed by the back region, wrist and the least at the finger. Surprisingly, about 10% of participants had been diagnosed with serious condition such as prolapse disc L5, cervical spondylitis, gouty arthritis, and regenerative disc C4/C5/C6. Most of the participants took certain preventive measures in order to minimise the occupational hazards such as follow the universal protection guidelines, infection control guidelines and practice healthy lifestyle.

Conclusion: Awareness on the occupational hazards among dental surgeons in IIUM is high. However, majority of them had experienced physical health problems. Hence, most of the participants took certain preventive measures in order to minimise the occupational hazards.

Keywords: Occupational hazards, dentistry, dental surgeon



PCS– 03

A RADIOGRAPHIC RETROSPECTIVE STUDY USING CBCT ON SUPERNUMERARY ROOT (RADIX ENTOMOLARIS AND PARAMOLARIS) AMONG KOD IIUM PATIENTS

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Introduction: Radix entomolaris (RE) referred to supernumerary root located at distolingual side, while radix paramolaris (RP) is mesiobuccally located. This study was conducted to determine the prevalence of RE and RP among KOD IIUM patients and to record the differences in genders, races and sides by using Cone Beam Computed Tomography (CBCT).

Materials and Methods: 506 CBCT of mandibular first and second molar with complete root formation were collected and interpreted from Romexis software. Inter and intra-observer reproducibility for all interpreters were done with Kappa value 1.00. Races, genders, occurrence sides of RE and RP were recorded and analyzed by using Chi-square test and Fisher's exact test.

Results: RE and RP prevalence was 15% and 0.6% respectively. The prevalence of RE according to races (Malay 10.5%, non-Malay 4.3%), sides (right 38%, left 39.2%, both 17.7%) and gender (female 9.3%, male 5.5%). The prevalence of RP according to sides (right 2.5%, left 0%, both 1.3%), gender (female 0.4%, male 0.2%) and races (Malay 0.6%, non-Malay 0%). The RE differences between genders and races were significant ($p < 0.05$), while RE differences between sides and RP differences between gender, sides and races were insignificant ($p > 0.05$).

Conclusion: RE occurred more frequent compared to RP. Both RE and RP were higher in Malay and females. RE mostly found on left sides while RP was higher on right sides. The differences of RE between genders and races were significant. Clinician should be equipped with sound knowledge of root canal morphology in order to facilitate the endodontic treatment.

Keywords: Radix entomolaris, Radix paramolaris, CBCT



PCS – 04

DIRECT IDENTIFICATION OF ANATOMICAL LANDMARKS TO LOCATE SECOND MESIOBUCCAL CANAL OF MAXILLARY FIRST MOLARS: AN IN-VITRO STUDY

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Introductions: Locating second mesiobuccal canal of permanent maxillary first molar tooth is always challenging for the clinician. Most of the time the orifice of the canal is covered by the dentin or has become calcified. Searching the canal in correct location will facilitates treatment and also can avoid complication such as perforation. Availability of reliable anatomical landmark will help clinician to locate MB2 canal in more predictable way. The objectives of this study are to locate the position of MB2 canal and investigate the correlation of the canal with surrounding anatomical structure.

Materials and methods: Thirty extracted permanent maxillary first molar teeth with socio-demographic data were collected at Oral Surgery Clinic Kulliyah of Dentistry IIUM Kuantan and private dental clinic around Kuantan. A standard rhomboidal access cavity was prepared and all canals were located either under direct eye vision or with the aid of dental loupe (3.5x magnification). Ultrasonic tip or LN bur was used to locate MB2 canal when necessary. The relationship of MB2 canal with another canal was examined and any potential landmark was recorded.

Results: Second mesiobuccal canal was located in 80% of the total sample. About 93.3% of the located canal was on the opposite location of DB canal which is parallel with straight mesio-distal line on the palatal tooth surface at the cervical area. The mean of interorifice distance between MB1 and MB2 was 1.3mm. The MB2 canal was always located mesial or directly on the MB1-palatal line. There was no significant association between the position of MB2 with socio-demographic factors (gender and ethnicity).

Conclusions: The palatal surface of the permanent first maxillary molar can serve as a reliable anatomical landmark in locating MB2 canal. By referring to a straight mesio-distal imaginary line on the palatal aspect at the cervical area, MB2 canal can be anticipated to be at the opposing direction of distobuccal canal. In addition, the canal is always located mesial to or directly on the MB1-palatal line and within 3mm palatal to MB1 canal.

Keywords: MB2 of maxillary first molar, direct identification, anatomical landmark.



PCS– 05

ASSESSMENT OF GINGIVAL PHENOTYPES AND ITS RELATIONSHIP WITH GINGIVAL HEIGHT, CROWN FORM AND PAPILLA HEIGHT AMONG MALAYSIANS POPULATION

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Introduction: Gingival phenotype is the thickness of the gingiva in the faciopalatal dimension and can be classified into thick and thin phenotype. It is suggested to influence the outcome of dental treatments such as implant placement, periodontal therapy and restorative treatment.

Aim and objectives: To determine the relationships between different gingival phenotype with supracrestal gingival height (SGH), crown form (CW/CL) and papilla height (PH) among Malaysians.

Material and methods: This clinical study involved 80 participants that met the inclusion criterion. The subjects were assigned into two groups either thin or thick gingival phenotype based on the transparency of gingival margin to UNC -15 probe when probing was done into midfacial gingival sulcus. The clinical parameters as such supracrestal gingival height, crown width/length ratio and papilla height from tooth 12 to 22 were measured under local anesthetic. Pre-calibration was done among operators and high degree of reliability was achieved with the results 0.75 for Kappa test and 0.987 for Intraclass Correlation Coefficient (ICC). The data was analysed using Mann Whitney test after testing for normal distribution. (P-values ≤ 0.05 considered statistically significant).

Results: It is found that 52.8% have thick phenotypes and 47.2% have thin phenotypes. There was no statistically significant difference in distribution of thick and thin gingival phenotypes among genders. No significant difference was also found between the gingival phenotype with supracrestal gingival height, papilla height and crown width/length ratio where the *p-value* ≥ 0.05 .

Conclusion: There is no relationship between different biotypes (thick/thin) with papilla height and crown width/crown length ratio among young Malaysians.

Keywords: Gingival biotypes, supracrestal gingival height (SGH), crown width/crown length ratio, papilla height.



PCS – 06

DENTAL ANXIETY AMONG ADULTS IN KUANTAN AND ITS ASSOCIATION WITH PSYCHOLOGICAL SYMPTOMS

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Introduction: There was dearth evidence on prevalence of dental anxiety among general population and its associated factors. Most researchers in Malaysia focused on undergraduates and pregnant mothers. Therefore, the objective of this study is to assess the prevalence of dental anxiety among general adult population in Kuantan, Malaysia and its associated factors, mainly with psychological symptoms and dental attendance patterns.

Material and methods: This was a cross sectional study done among 465 adults attending IIUM Medical Center and Family Health Clinic in Kuantan, Malaysia. Participants were required to answer validated, self-administered questionnaires which consist of Depression Anxiety and Stress Scale (DASS), Modified Dental Anxiety Scale (MDAS) and Adult Dental Health Survey questionnaire. Data was analysed using Chi-square and Mann-Whitney test. Multiple logistic regression was used to determine the relationship between dental anxiety and other variables.

Results: The prevalence of dental anxiety among respondents was very high (93.1%). It was found that female gender was 2.3 times more likely to have dental anxiety compare to male. Meanwhile, increase in age by 1 year reduced the likelihood to have dental anxiety by 3%. However, there was no significant association found between dental anxiety with psychological symptoms and dental attendance pattern.

Conclusion: Majority of adults in Kuantan has dental anxiety. Factors such as age and gender are directly associated with dental anxiety in which female and younger age are more likely to have dental anxiety. However, dental anxiety is not associated with their anxiety, depression and stress symptoms.

Keywords: Dental anxiety, Depression, Anxiety and Stress, Dental Attendance



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