P1-01 Lymphocytic Host Response In Oral Squamous Cell Carcinomas- A Retrospective Study

Eoh BS[1], Tan YZ[1], Kallarakkal TG[1,2], Ramanathan A[1,2]

1. Department of Oral & Maxillofacial Clinical Sciences, Faculty of Dentistry, University of Malaya, 50603, Kuala Lumpur, Malaysia.
2. Oral Cancer Research and Coordinating Centre, Faculty of Dentistry, University of Malaya. 50603, Kuala Lumpur, Malaysia.

Objectives: To determine the association of LHR with socio-demographic, clinico-pathological and survival characteristics of patients with OSCC.

Methods: The LHR surrounding the most invasive front of the tumour was classified into strong, intermediate and weak at low power magnification (4x) in 59 OSCC cases. The socio-demographic and clinico-pathological data were compared with the LHR by univariate and multivariate analysis. Overall survival analysis was compared by Kaplan-Meier estimates.

Results: Pathological tumour size (pT) was found to be significantly associated with LHR ($p = 0.044$). Patients with weak LHR showed a trend towards poor survival outcome ($p = 0.078$).

Conclusion: This study supports the finding that T1 and T2 OSCCs have better LHR compared to T3 and T4 OSCCs. Nonetheless, the survival data shows a trend that OSCC patients with a strong LHR have a better survival outcome.

Keywords: Lymphocytic Host Response; Oral Squamous Cell Carcinoma; Socio-demographic Parameter; Clinico-pathological Parameter; Pathological Tumour Site; Survival

P1-02 A Clinical Study of Oral Mucosal Changes Adjacent To Amalgam Restorations

Lee AT[1], Lai WL[1], Chan SW[2], Goh YC[2], Siar CH[2]

1. Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia
2. Department of Oral and Maxillofacial Clinical Sciences, Faculty of Dentistry, University of Malaya, Kuala Lumpur

Objectives: To evaluate the prevalence and types of oral mucosal changes (OMC) clinically related to amalgam restorations (AR). To compare the demographic and clinical profile of patients with and without OMC adjacent to AR. To investigate the association of OMC with clinical parameters.

Methods: In this study, 83 outpatients attending the Primary Dental Care Unit at the Faculty of Dentistry, University Malaya from early July to mid July 2016 were examined for the presence of OMC adjacent to AR via intraoral examination. Relevant information was extracted through interview based on predesigned questionnaire survey form. Collected data was analyzed with SPSS 12.0.1 using Pearson Chi-Square tests and Simple Logistic Regression Analyses.

Results: Only 14.6 % of the patients had OMC, composed of amalgam tattoo (13%) and oral lichenoid lesions (2%). Females (8.4%) and Chinese (8.4%) were slightly more commonly affected. Certain systemic diseases (cardiovascular, infectious, endocrine, respiratory diseases, hypertension, hypercholesterolaemia), medications taken (antihypertensive, antihypercholesterolaemia, antidiabetic) and duration of AR in the oral cavity were significantly associated with OMC. However, social habits were not associated with OMC.

Conclusion: Present findings suggest that OMC adjacent to AR are relatively uncommon. Three key parameters namely systemic diseases, medications taken and duration of AR were identified as possible risk factors predisposing to the development of OMC.

Keywords: Oral mucosal changes, amalgam restorations, amalgam tattoo, oral lichenoid lesions

P1-03 Prevalence of Temporomandibular Disorders (TMD) and Its Association to Stress Level among Undergraduate Clinical Dental Students in University of Malaya and University of Teknologi Mara

Usoff NA[1], Majid SA[1], Salleh NM [2]

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

Objective: To investigate the prevalence of temporomandibular disorders (TMD) and its association to stress level among undergraduate clinical dental students in University of Malaya and University of Teknologi Mara.

Method: This was a cross-sectional study involving clinical undergraduate dental students from year three to year five of UM and UITM. The study was approved by the medical ethics committee, Faculty of Dentistry, University of Malaya. Modified Dental Environment Stress (DES) questionnaire was used for data collection and the collected data were analysed using SPSS® version 22. The Kruskal-Wallis and the Mann-Whitney U tests were used to compare stress items across various academic years and universities. Meanwhile, for TMD assessment was based on Fonseca's Questionnaire.

Results: 300 questionnaires were distributed and 266 were returned (88.67% response rate). Common stressors among the 3rd, 4th and final year students were professional examination, fear of failing year and completion of clinical requirements. As whole, UITM clinical dental students perceived high stress level compared to UM students. Interestingly, fourth year dental students suffered high stress level than the rest clinical years. On the other hand, comparing the gender with TMD assessment revealed that greater rate of female with TMD signs and symptoms (53.5%) than male students (34.8%). In addition, overall of 18.8% students from UM and UITM reported to have TMJ clicking.

Conclusion: There was no association between TMD and stress level among undergraduate clinical dental students since p-value >0.05, which was statistically insignificant.

Key words: Prevalence, Dental Students, Temporomandibular Joint Disorders,Stress

P1-04 Validity of the Third Molar Age Estimation from Different Dental Age Assessment Surveys for Malays and Chinese in Malaysia.

Mohd Zefri AA[1], Nukman A[1], Nambiar P[2]

[1]Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.
[2]Department of Oral and Maxillofacial Clinical Sciences, University of Malaya, Kuala Lumpur, Malaysia.

Objectives: This study aims to determine which age assessment data using the third molar development values (local or international) is suitable for estimating the age of Malays and Chinese in Malaysia.

Methods: A sample of 60 panoramic images of Malays and Chinese aged between 13.58 to 21.25 years was collected. Different assessment surveys, which included the studies by Yusof et al. (2015), Wilson (2005), Johan et al. (2012), Mincer et al. (1993), AlQahtani et al. (2010) and Gunst et al. (2003) were employed to estimate the age from the third molar development. The estimated ages were compared to the chronological age of the Malays and Chinese whose panoramic images were studied. All data were recorded on excel sheet. Two observers scored the third molar development for the intraclass correlation coefficient and inter-observer reliability test.

Results: The intraclass correlation and inter-observer tests showed strong agreement between the two observers. Results indicated high number of correspondence for the survey conducted by Wilson et al. where the estimated age of 65.0% of the cases closely matched to the chronological age within one year. Malays further showed a high correspondence for the study by Mincer et al. (63.3%) whereas 70.0% of Chinese matched the mean estimated age by Wilson et al.

Conclusion: There are similarities in third molar development between Malays and Chinese and the dental age assessment survey by Wilson and Mincer et al. yielded best correspondence for age estimation of these Malaysians.

Keywords: third molar development, dental age estimation, Malay, Chinese.

P1-05 Fluoresecence *In Situ* Hybridisation (Fish) In Detecting Cyclin D1 And Epidermal Growth Factor Receptor Genes Amplification And Copy Number Changes In Oral Squamous Cell Carcinoma

Shamsuddin SNM[1], Samad NIA[1], Zaini ZM[2]

[1]Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.
[2]Department of Oral & Maxillofacial Clinical Sciences, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.

Background: Oral squamous cell carcinoma is the most common cancer of head and neck region. Cyclin D1 and Epidermal Growth Factor Receptor genes amplification and proteins overexpression in determining the stages and prognosis of a tumour are well established in breast, lung and colon cancers. However, genetic abnormalities of these two genes in OSCC involving Malaysian population of which the aetiologies and clinical characteristics are distinct from the developed world are scarce. Therefore, the aim of this study was to assess the patterns and relationship between these markers and clinical parameters in our population.

Materials & Methods: We performed fluorescence *in situ* hybridization on paraffin sample from 13 patients with OSCC who had undergone surgery as the primary treatment modality. Copy number changes of EGFR and CCND1 genes were evaluated and each sample was classified either as FISH positive or FISH negative.

Results: There were 5 cases with low-level gain status (50%) and 5 cases with high-level gain status (50%) for CCND1. For EGFR, there were 4 cases with low-level gain status (40%) and 6 cases with high-level gain status (60%). The survival curves of patients with high gain were shorter than those of patients with low gain. However both were not significant with EGFR (log rank P=0.954) and CCND1 (log rank P=0.613). The correlation between EGFR and CCND1 high gain and low gain were not significant with all clinicopathologic parameters using Fisher's Exact Test.

Conclusion: Both CCND1 and EGFR copy number changes were found in all OSCC sample. However, there were no significant association between these markers and clinical parameters in OSCC involving Malaysian population in this study.

Keywords: Oral squamous cell carcinoma; Fluorescence *in situ* hybridization (FISH); Cyclin D1 (CCND1); Epidermal Growth Factor Receptor (EGFR); Gene amplification; Copy number changes.

P1-06 Growth Inhibitory Activity Of *A. Bilimbi* On Mixed Culture Of *S. Mutans, S. Sanguinis* And *S. Mitis*

Ishak, S.[1], Mohd Roshdy, R.H.[1], Che Baharuddin BA[2] , Fathilah, A.R.[2]

1. Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia
2. Department of Oral and Craniofacial Sciences, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia

Objective*:* The study aimed to evaluate the effect of *A. bilimbi* fruits extract on a mixed-bacterial suspension of selected common oral streptococci that consisted of *Streptococcus mutans, Streptococcus sanguinis* and *Streptococcus mitis*.

Methods: Antibacterial activity of *A. bilimbi* extract was assessed by its growth inhibitory effect on a mixed bacterial culture of the selected streptococci using a susceptibility test. A growth curve was plotted with the bacteria culture grown with and without *A. bilimbi*-treated conditions. The bacterial growth rates were determined. Periodic pH readings were recorded to provide some indications on the effect of *A. bilimbi* on bacterial energy metabolism.

Results: The mixed-bacterial culture of *S. mutans, S. sanguinis* and *S. mitis* was found susceptible to *A. bilimbi* in a dose-dependent manner at concentration below 50 mg/µL. At 6.25 mg/µL of *A. bilimbi* lag phase is delayed by 2 hr, 92.6% reduction of growth rate resulting in >80% reduction in bacterial population. Comparative to Chlorexidine that causes no effect on the starting of the log phase, 49.2% reduction of growth rate that resulted in 77.4% reduction of the bacterial culture.

Conclusion: The aqueous extract of *A. bilimbi* fruits exhibited effective growth inhibitory activity on a mixed bacterial culture of *Streptococcus mutans, Streptococcus sanguinis* and *Streptococcus mitis*. The antibacterial effect was suggested bacteriostatic that suppresses bacterial growth that resulted in a controlled minimal bacterial population. With respect to the oral environment, this would ensure low microbial population in the oral biofilm.

Keywords: *A. bilimbi*, oral streptococci, growth curves, chlorhexidine

P1-07 Targeting Signal Transducer and Activator of Transcription 1 (STAT1) in Oral Cancer.

Mat Sukhri SS[1] Mohammad M[1] Lee HM[2] Yap LF[2]

1. Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.
2. Department of Oral and Craniofacial Sciences, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.

Objectives: To determine the expression of STAT1 in oral squamous cell carcinoma (OSCC) cell lines and to investigate the effect of STAT1 inhibition on the growth of OSCC cells in vitro.

Methods: The expression of STAT1 was determined using microarray analyses in OSCC cell lines and normal oral keratinocytes. Reverse transcriptase-polymerase chain reaction (RT-PCR) followed by gel electrophoreses were performed to further examine the expression of STAT1 in the OSCC cell lines. In addition, two OSCC cell lines (H103 and H400) were treated with a commercially available STAT1 inhibitor, fludarabine. Range of fludarabine concentration, 0-80μM were used and following 72 hours of incubation, the proliferation of OSCC cells was determined using MTT assays.

Results: The expression of STAT1 mRNA was shown to be upregulated in 6 OSCC cell lines compared to normal oral keratinocytes. Furthermore, RT-PCR showed that the mRNA levels of STAT1 were readily detected in all the OSCC cell lines examined. Treatment of fludarabine reduced the growth of H103 and H400 cells with a half maximal inhibitory concentration (IC_{50}) of 26μM and 32μM, respectively.

Conclusion: Our findings suggest that STAT1 signalling could be aberrantly activated in OSCC and targeting this signalling pathway might represent a novel therapeutic option for this disease.

Keywords: Oral squamous cell carcinoma (OSCC); Reverse transcription-polymerase chain reaction (RT-PCR); STAT1; Microarray; Fludarabine; MTT assays.

P1-08 Physical Properties Of Collagen Fibres Of Human Oral Mucosa

Chin YJ[1] , Sa'aim NA[1] , Rahman MT[2] , Mat Ripen Z[3] , Radzi Z[4]

1. Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.
2. Dean's Office, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.
3. Department of Oro-Maxillofacial Surgical & Medical Sciences, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.
4. Department of Paediatric Dentistry & Orthodontics, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.

Objectives: To measure the collagen fibrils' parameters of healthy human attached gingiva (AG) and buccal mucosa (BM) tissues.

Methods: The AG and BM tissues of 13 clinically healthy individuals were taken during the removal of their impacted lower third molar. The samples were collected in dry ice and stored at -20°C and later were sectioned to a thickness of 10 μm using high profile microtome blade (Leica 818, Germany) and cryostat (Leica CM1850UV, United Kingdom). The sample testing was done using Atomic Force Microscope (Nanowizard®3, JPK Instruments, Germany) with contact mode and analyzed with JPK SPM software.

Results: The collagen fibrils of both the AG and BM tissues appeared to be stacked in basket weave like structure. The mean collagen fibril diameter of the AG and BM were recorded as 74.53±9.75 nm and 76.94±10.17 nm respectively. The mean lengths of D-period were 62.01±1.77 nm and 60.74±3.37 nm for the AG and BM respectively. The Young's Modulus (*E*) of AG at the gap region ranged from 0.13MPa to 983.2MPa with median of 51.04MPa whereas at overlap region ranged from 0.13MPa to 746.3MPa with median of 50.76MPa. The median *E* of the gap and overlap region of BM were recorded as 139.7MPa from range of 3.19MPa to 766.1MPa and 136.77MPa from range of 3.06MPa to 709.08MPa respectively.

Conclusion: Length and diameter of the collagen fibril for both tissues are slightly less than the values investigated using other techniques. A significant linear relationships between *E* of the overlap and the gap region was observed.

Keywords: Collagen fibrils; Human attached gingiva; Human buccal mucosa; Young's Modulus; Atomic Force Microscopy (AFM); Gap and overlap regions of collagen.

P1-09 Comparative Studies between Cancer-Associated Fibroblasts and Normal Human Oral Fibroblasts on Proliferation and Migration of Oral Carcinoma Cell

Chin JW[1], Lim ZE[1], Tan ML[2], Paterson IC[2]

1) Faculty of Dentistry, University of Malaya, Kuala Lumpur.
2) Department of Oral and Craniofacial Sciences, Faculty of Dentistry, University of Malaya, Kuala Lumpur

Objectives: To assess the effects of carcinoma-associated fibroblasts (CAFs) on proliferation and migration of oral squamous cell carcinoma (OSCC).

Methods: The effects of conditioned media (CM) from CAFs and normal human oral fibroblasts (NHOFs) on OSCC (H357 cell line) proliferation and migration were examined. To measure cell proliferation, H357 cells were seeded into a 96-well microplate for 24 hours at 37ºC, 5% CO_2. CM from CAFs and NHOFs were then respectively added into the wells and incubated for 72 hours. After 72 hours, 3-(4,5-Dimethylthiazol-2-Yl)-2,5-Diphenyltetrazolium Bromide (MTT) reagent was added and incubated for further 4 hours. Then, MTT reagent was aspirated and Dimethyl Sulfoxide (DMSO) was added. The numbers of viable cells were measured by reading the absorbance values using microplate reader. To study cell migration, cells were cultured for 24 hours to generate a confluent monolayer. Mitomycin C was added and the cells were incubated for 2 hours. Uniform wounds were created by 'scratching' the monolayer before treated with CM from CAFs and NHOFs. The area of wound closures were examined under inverted microscope between 0-48 hours.

Results: CM from both CAFs and NHOFs induced a significant increase in the proliferation of H357 cells with the effects of CM from CAFs significantly higher than CM from NHOFs. Only CM from CAFs significantly increased the H357 cells migration; no significant effect was observed using CM from NHOFs.

Conclusion: CAFs secretes molecules that enhanced proliferation and migration of H357, implying that CAFs might be suitable as novel targets for cancer therapy.

Keywords: cancer-associated fibroblasts; normal human oral fibroblast; H357 cells; oral squamous cell carcinoma; MTT assay; scratch wound assay.

P2-01 Visco-elastic Properties of Contemporary Bulk-fill Restorative Materials

Ong EX[1], Hong JY[1], Eweis AH[2], Yap AUJ[3], Yahya NA[2]

1. Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.
2. Department of Restorative Dentistry, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.
3. Adjunct Professor, Department of Restorative Dentistry, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.

Objectives: To investigate the visco-elastic properties of contemporary bulk-fill restoratives in distilled water and artificial saliva using dynamic mechanical analysis.

Methods : The materials evaluated included a conventional composite (Filtek ZT [ZT]), two bulk-fill composites (Filtek Bulk-fill [FB] and Tetric N Ceram [TC]), a bulk-fill giomer (Beautifil-Bulk Restorative [BB]) and two novel reinforced glass ionomer cements (Zirconomer [ZR] and Equia Forte [EQ]). The glass ionomer materials were also assessed with and without resin coating (Equia Coat [C]). Test specimens 12mm x 2mm x 2mm of the various materials were fabricated using customized stainless steel molds. After light polymerization / initial set, the specimens were removed from the molds, finished, measured and conditioned in distilled water or artificial saliva at 37°C for 7 days. The materials (n=10) were then subjected to dynamic mechanical testing in flexure mode at 37°C and a frequency of 0.1 to 10Hz. Elastic modulus, viscous modulus and loss tangent data were subjected to normality testing and statistical analysis using one-way ANOVA/Dunnett's post-hoc test and T-test at significance level $p<0.05$.

Results: Mean elastic modulus ranged from 3.16±0.25 to 8.98±0.44 GPa while mean viscous modulus ranged from 0.24±0.03 to 0.65±0.12 GPa for distilled water and artificial saliva. Values for loss tangent ranged from 45.70±7.33 to 134.20±12.36 ($x10^{-3}$).

Conclusion: Significant differences in elastic/viscous modulus and loss tangent were observed between the various materials. For FB, TC, BB, EQ and EQC, significant differences in visco-elastic behaviors were observed between the two mediums. Elastic modulus was significantly improved when EQ and ZR were not-coated with resin.

Keywords: bulk-fill composite, giomer, glass ionomer, elastic modulus, visco-elastic, dynamic mechanical analysis

P2-02 The Impact of Visual Feedback on Compliance to Home Care Remineralisation Therapy

Koay YR,[1] Tan SK,[1] Chew HP[1]

1. Faculty of Dentistry, University of Malaya, 50603 Kuala Lumpur, Malaysia
2. Department of Restorative Dentistry, Faculty of Dentistry, University of Malaya, 50603 Kuala Lumpur, Malaysia

Objective: The objective of this study is to compare the effectiveness of the addition of visual feedback to a standard oral hygiene instruction in the short term improvement of compliance to home remineralisation therapy.

Methods: This is a 1(intervention) * 1(time) randomised controlled clinical trial. 38 participants with moderate caries risk profile were randomised into either the control or test group. ICDAS 1 and 2 lesions detected were recorded and remineralisation therapy used in this study was a combination of a fluoride varnish and home-care remineralisation with fluoridated toothpaste. Both groups were given standardised oral hygiene education (OHE) but images of the teeth, taken with a fluorescent device, SOPROLIFE®, were shown only to the test group. Participants were recalled after two months and images taken again. The outcome measure used to quantify dental plaque is the mean intensity, *I*, of the red channel and the region of interest was the whole tooth area except near the fissures. Paired sample T-test was used to compare *I* at baseline and recall of the control group and the test group respectively.

Results: The intensity at baseline I_B and recall I_R of the control group were similar and not significantly different. The intensity at recall, I_R, of the test group however is 6% lower than that of baseline I_B and the decrease was statistically significant ($p<0.05$).

Conclusion: It is concluded that visual feedback during oral hygiene instruction increased compliance to home-care remineralisation therapy in moderate risk group subjects in the span of 2 months.

Keywords: early caries, motivation tools, remineralisation, oral hygiene

P2-03 Knowledge and Perceptions of Flexible Denture among Private Dental Practitioners

Rozano AS[1], Asman N[1], Zubaidah ZA[2], Lim GS[2]

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

Objectives: To assess the knowledge of flexible denture among private dental practitioners in Petaling Jaya and Shah Alam, Selangor as well as to evaluate their perceptions on effectiveness of prescribing flexible denture.

Methods: Fifty questionnaires had been distributed randomly to selected private dental clinics that had met the inclusion and exclusion criteria. Only forty two respondents completed the questionnaires. An independent t-test was employed to determine the statistical difference between genders and one way ANOVA test was used to evaluate the statistical difference between their years of experience in private sector on knowledge and perception of flexible denture. A P-value of less than 0.05 was considered to be statistically significant.

Results: Total scores of knowledge between male and female was tabulated and there was no significantly different between them (p-value 0.892). A total scores of knowledge were also compared between the 3 groups based on years of experiences in private sector which was Group A, Group B and Group C. There were also no statistically significant different (p-value 0.617). For perceptions of flexible denture, there was also no significance difference between genders (p-value 0.068). However, there was a statistically significant difference in perceptions of flexible denture between years of experiences in private sector of group A and B (p-value 0.039), and between group B and group C (p-value 0.039).

Conclusion: There is a correlation between perceptions of flexible denture and years of experience of private dental practitioner.

Keywords: flexible denture, knowledge, perceptions, private dental practitioners

P2-04 Effect of Roughness and Surface Morphology on Hydroxyapatite Coating of Titanium Alloy

Aminuddin NL[1], Maswar NAB[1], Kutty MG[2]

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

Objectives: The aim of this study was to assess the effect of surface roughness and morphology of titanium alloy (Ti6Al4V) on hydroxyapatite (HA) coating using simulated body fluid (SBF).

Methods: Twelve samples of Ti6Al4V were equally divided into 3 groups according to the following surface treatment (i) gritted, (ii) sandblasted, and (iii) sandblasted followed by acid etching. Then, each sample was immersed in a simulated body fluid (SBF) and was taken out on 3rd, 5th and 7th days of coating respectively. Analysis of the surface characteristics was performed using a Profilometer (Alicona), Scanning Electron Microscope (SEM) and Energy Dispersive X-ray (EDX).

Results: Sandblasting created grooves on the surface of the sample. Meanwhile, acid etching removed contaminants, therefore, producing clean, even and rough surface with higher average surface roughness. Surface roughness (Sa) values obtained for sandblasted and acid etched samples were 2.3 ± 0.1 μm and 1.9 ± 0.2 μm respectively. The morphology of the SBF coated samples were similar for all the surfaces. Analysis of Ca/P of the coating gave a ratio of 1.70 for sandblasted sample after immersion in SBF for 7 days. HA has a Ca/P ratio of 1.67.

Conclusion: The value indicated that the SBF coating on sandblasted samples gave the best coating of HA. Therefore, this study was able to establish that the best surface for coating of HA via the SBF method is the sandblasted surface.

Keywords: Osseointegration; Titanium; Sandblasting; Simulated Body Fluid; Hydroxyapatite; Dental Implant.

P2-05 Dentists' Education, Attitude And Behaviour Towards Autism Spectrum Disorder Patients

Abdul Razak AA[1] , Hau AJ[1] ,Shoaib LA[2] ,Mohamed Rohani M[2]

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

Objectives: This study aimed to evaluate Malaysian general and paediatric dentists' professional attitude and behaviour in providing treatment for patients with Autism Spectrum Disorder (ASD) and relate these to their dental education. Their ability to define the category for special needs patients in Malaysia context will also be explored.

Methods: A total of 240 self-administered questionnaires were distributed to dentists who registered with the Malaysian Dental Council (MDC), comprising of 200 general dentists (GD) and forty paediatric specialists (PS), assessing their sociodemographic profile, professional attitude and behaviour, educational experience and ability to define the categories of Special Care Dentistry patients. Questionnaires were distributed to PS during a conference, whilst questionnaires to GD were mailed with a cover letter and a coded reply-paid envelope to every tenth of dentist in the MDC list. Data collected was interpreted and statistically analysed with significance level less or equal to 0.05.

Results: A total of 99 questionnaires were returned (response rate= 41.3%). Majority of respondents have experienced in treating ASD patients. There was statistically significant difference in professional attitude between GD and PS (p=0.001). However, there were no statistically significant difference in professional behaviour in treating ASD patients, their under/postgraduate dental educational experience and ability to define SCD in Malaysia context.

Conclusion: PS have better professional attitude compared to GD. No significant difference in professional attitude and behaviour management strategies with their under/postgraduate dental education, and in defining SCD patient's category between these groups.

Keywords: attitude, autism spectrum disorder, dental education, treatment, behaviour control, dental care for disabled

P2-06 Quality Of Life And Patient's Satisfaction After Root Canal Treatment By Undergraduate Dental Students In University Of Malaya

Ibrahim MS[1], Nazri AH[1], Azami N[2], Abdullah M[2]

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

Objectives: To assess the quality of life (QoL) and satisfaction of patients after root canal treatment (RCT) provided by undergraduate students in Faculty of Dentistry, University of Malaya.

Methods: A systematic random sample of 33 patients was selected from undergraduate clinic in Faculty of Dentistry, University of Malaya. Patients were asked to complete the questionnaire before and after RCT provided by undergraduate dental students. The study instruments were based on oral health impact profile (OHIP)-17 and semantic differential scales.

Results: Based on the 7 dimensions of OHIP items, the highest mean difference between before and after RCT was "physical pain" (1.33). Moreover, based on the 17 OHIP items, the highest mean different between before and after RCT was "painful aching" (1.54). All of the seven conceptual dimensions and 17 OHIP items showed significant ($p<0.05$) improvement of the QoL after the RCT. The semantic differential scales showed that overall patient's satisfaction level was 76%, with "general satisfaction" of RCT give the highest score (81.5%), while the "time involved" give the lowest score (63.3%). Patients treated by undergraduate students were significantly least satisfied ($p<0.05$) with the "time involved" especially for "employed and own business" (58.4%) patient's characteristic.

Conclusion: RCT provides significant impact on the QoL of the patients. Overall patients showed high satisfaction toward RCT provided by undergraduate dental students in the Faculty of Dentistry, University of Malaya.

Keyword: Quality of life, root canal treatment, satisfaction, undergraduate dental students, Oral health instrument profile, semantic differential scales

P2-07 Awareness & Attitude of the Malaysian Medical & Dental Community Towards Dental Stem Cells

Teng WS[1], Caryn LWL[1], Roziana MR[2]

[1]Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.
[2]Department of Paediatric Dentistry & Orthodontics, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia

Objectives: To assess the awareness and attitude of the Malaysian medical and dental community towards dental stem cells(DSCs).

Method: A cross-sectional study was conducted amongst 566 medical and dental personnel from June-September 2016 using a 17-item self-administered questionnaire which was randomly distributed within the inclusion and exclusion criteria. It assessed the participants' demographics, attitude and awareness on DSCs. A pilot study (n=22) was conducted and the questionnaire was modified accordingly for better understanding. Data was analyzed with Independent t-test, binary logistic regression and Pearson's Chi Square Test using SPSS version 12.0.

Results: 72.3% (n=409) were medical personnel and 27.7% (n=157) were dental; 38.2% (n=216) were professionals and 61.8% (n=350) were staff. This study found that 18.3% (n=75) of the medical and 55.4% (n=87) of the dental community showed good to fair awareness on DSCs. In terms of attitude, 42.8% (n=175) and 50.3% (n=79) of the medical and dental community respectively showed positive attitude towards DSCs. Logistic regression showed significant association between sector and qualification with both awareness and attitude towards DSCs ($p<0.001$). Those working in the government, professionals and dental showed better awareness and attitude towards DSCs. 30.6% (n=173) of the respondents were willing to invest in DSCs banks. 52.7% (n=298) were willing to donate their extracted teeth to Stem Cell Banks.

Conclusion: One third of the medical and dental community (28.6%) showed good to fair level of awareness on DSCs and almost half of them (44.8%) had positive attitude towards DSCs.

Keywords*:* Stem cells, Dental stem cells, Attitude, Awareness, Dentistry, Knowledge, Medical, Dental

P2-08 Oral Health Behaviours of and Parental Barriers in Providing Oral Care in Children with Autism Spectrum Disorder (ASD)

Baharozaman NF[1] , Khalid NS[1] , Mohamed Rohani M[2] , Ab-Murat N[3]

1. Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.
2. Department of Paediatric Dentistry and Orthodontics, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.
3. Department of Community Oral Health and Clinical Prevention, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.

Objectives: Children with Autism Spectrum Disorder (ASD) may have impaired communication and social relationships which may give significant impact on their oral health behaviours and the provision of their oral care. This study was conducted to assess the oral health behaviours of ASD children and to explore parental barriers in providing oral care to their ASD children.

Methods: This was a cross-sectional mixed method study involving ASD children registered at the Paediatric Clinic, University of Malaya. The quantitative part assessed the oral health behaviour of ASD children through a parent-proxy report questionnaire. The qualitative part assessed parental barriers in providing oral care to the ASD children through an in-depth interview using semi-structured questions.

Results: The response rate for the quantitative part was 80% whilst nine parents participated in the interview session. Most samples were boys and were between 5-8 years old. Majority had good oral health behaviours but some exhibited self-injurious behaviours that may affect their oral health. Three themes emerged in the qualitative analysis namely ASD children's tolerance towards oral health care, parental attitude towards oral care and parents' personal experiences after previous dental visits with their ASD child. Severe characteristics of ASD, co-morbid conditions and incompetent dental professionals were some barriers reported by the parents.

Conclusion: Although most ASD children in this study had good oral health behaviour, their parents perceived some barriers that may affect the provision of oral care to them. It is important that appropriate support and motivation be given to the parents and the children to ensure better oral health.

Keywords: Autism Spectrum Disorder; Oral health behaviours; Children; Qualitative study; Barriers; Oral care.

P2-09 Assessment of Alveolar Bone Height and Posterior Teeth Positions in Malaysian Population Using Panoramic Radiographs

Abd Samad FS[1],Tuan Baharom S[1], Ibrahim N[2], Tameem K[1]

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

Objectives: To determine the location of first premolar and first molar area in the maxilla and the mandible from the midline followed by the assessment of the maxillary and mandibular alveolar bone heights using panoramic radiographs of the Malaysian population.

Method: 153 panoramic images were collected from the Faculty of Dentistry, University of Malaya. Images are classified according to gender (79 males and 74 females), race (58 Malays, 58 Chinese and 37 Indians) and age group (98 patients aged 20-29, 43 patients aged 30-39 and 12 patients aged 40-49). Horizontal and vertical lengths of maxilla and mandible at the first premolar and first molar areas were measured using ImageJ software by one observer. The data were statistically analysed using SPSS 21.0.1 software.

Results: The maxillary first premolars and maxillary first molars are located approximately 46.85 and 75.53%, respectively, of the horizontal length of the maxilla. The mandibular first premolars and mandibular first molars are located at 39.19 and 57.07%, respectively, of the length of the mandibular body from the midline. Unlike age groups, all parameters showed statistically significant difference ($p<0.05$) when measured between gender and race. Alveolar bone heights of dentate are greater in males. Indians have the smallest alveolar bone height compared to Malays and Chinese.

Conclusion: The horizontal position of teeth in Malaysian population is not influenced by gender, race and age. Alveolar bone heights of dentate maxilla and mandible differ between gender and races but they do not change with age.

Keywords: Panoramic radiography, Gender, Race, Age, Maxilla, Mandible, Tooth position, Alveolar bone height