

JOINT EVENT



3rd International Conference on
General Practice & Primary Care
&
24th International Conference on
Dental Public Health & Dental Hygiene
August 16-17, 2018 Madrid, Spain

e-Posters

General Practice 2018 & Dental Public Health 2018

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An eight-year systematic review of restoration techniques: Incremental versus bulk filling

Mirian M Dang

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The purpose of this systematic review was to examine the marginal discoloration and adaptation in incremental layering or bulk fill associated posterior composite resin restorations in adult patients. The fracture risk and the postoperative sensitivity risk were also systematically reviewed. A comprehensive search spanning 1994 to March 2018 was performed in PubMed, LILACS, Scopus, Brazilian Library in Dentistry, Web of Science and SIGLE without restrictions. The abstracts of the annual conference of the IADR (1994-2018) were searched. Dissertations and theses were searched via the ProQuest Dissertations and Periódicos Capes Theses Databases. After the removal of duplicates and the reading of title and abstracts, a total of 12 articles were included in the analysis. Randomized clinical trials were included which compared incremental layering and bulk fill of posterior composite resin restorations of cavities in patients age 22-51 years old. The random effects statistical model and the Cochrane Collaboration's tool for assessing risk of bias were used. Of the 12 articles that were analyzed, nine studies were deemed an unclear risk of bias, and three studies were assessed to be at low risk of bias. There was no evidence of differences between bulk fill and incremental layering observed in any of the study follow-ups for fracture risks, postoperative sensitivity and marginal adaptation and discoloration ($p=0.08$). In conclusion, postoperative sensitivity is not influenced by bulk fill and incremental layering for up to six weeks in posterior composite resin restorations. Marginal discrepancies and risk of fractures are not influenced until eight years of evaluation.

Biography

Mirian M Dang has completed her BSc Hons at York University. She is the Founder and President of Smiles Initiative, a non-profit organization dedicated to advocating healthy oral routines and raising funds to assemble and distribute dental kits to vulnerable communities. She has designed and delivered programs ranging from informal workshops to hosting formal events such as the 2017 Annual Dental Health Fair.

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A novel application of nano eggshell/titanium dioxide composite on occluding dentine tubules: An *in vitro* study

Stanley Chibuzor Onwubu

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The present study is the report of the remineralization potential of a novel eggshell-titanium dioxide (EB-TiO₂) composite in occluding opened dentine tubules. EB-TiO₂ was synthesized through balling milling process. Nine prepared dentine tooth were treated with EB-TiO₂. The dentine tooth was agitated in 1wt% citric acid for 30 min to simulate sensitive tooth. Each specimen was then subjected to remineralization protocol. Scanning Electron Microscope (SEM) was used to characterize the dentine surfaces pre-post-treatment and post-acid exposure. In addition energy dispersive spectroscopy was used to analyze the elemental composition of the occluded tubules. Notable differences were observed in the remineralization characteristics pre-post-treatment. The SEM images show that EB-TiO₂ effectively occluded the tubules. The occluded tubules in the EB-TiO₂ samples remain intact post acidic exposure. The EDX results revealed the presence of calcium, phosphorus, oxygen, carbon and titanium in the occluded tubules. The salient features of this study suggest that EB-TiO₂ can effectively remineralise exposed dentine tubules while remaining effective in acidic environment.

Biography

Stanley C Onwubu has completed his Graduation and his Masters at the Durban University of Technology in 2016. He is currently pursuing his PhD at Durban University of Technology. He has published articles and book chapters in reputed journals. He has passion in the development of new dental materials from recycled materials. He has previously worked on a new abrasive material using waste eggshells for polishing poly methyl methacrylate resin dentures. His current doctoral research focuses on remineralization of damaged teeth using nano-sized titanium dioxide modified eggshell powder with a view of developing a mathematical model to predict dentine remineralization.

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Notes:

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Accepted Abstracts

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Diagnosis, nonsurgical and surgical treatment of obstructive sleep apnoea

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Sleep-disordered breathing is a hot topic in dentistry and medicine today. Dentists are in a unique position to screen for, diagnose and treat their patients with obstructive sleep apnoea (OSA). OSA is a serious, potentially life-threatening condition which can result in hypertension, congestive heart failure and even death. This presentation will cover the screening, diagnosis and contemporary management of sleep-disordered breathing in a comprehensive format, both for the general restorative dentist, the orthodontist and the oral and maxillofacial surgical specialists. From the medical history and clinical examination, to radiographic and diagnostic imaging findings, to a detailed discussion of the clinical polysomnogram and sleep medicine consultation referral, to mandibular advancement oral appliance therapy and CPAP therapy, to upper airway surgery including uvulopalatopharyngoplasty (UPPP), laser-assisted uvuloplasty (LAUP), nasal septoplasty, inferior turbinectomy, tonsillectomy and adenoidectomy, radiofrequency tongue and soft palate ablation, to maxillomandibular advancement and genioglossus advancement, to tongue and hyoid suspension, this presentation will provide direct and practical real life ways to improve the health and prolong the life of your patients with maximal fulfilment in return.

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Study of effect of poly (vinylpyrrolidone)-iodine (PVP-I) 2% as an anti-oedematous agent in third molar surgery

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A single blind randomized control trial was carried out on 50 healthy outpatients who required surgical removal of mandibular third molars under local anesthesia were selected. The patients were divided into two groups (n=25), the treatment (PVP-I) and control group (normal saline). The treatment group patients were irrigated using PVP-I 2% (w/v) (Betadine, Win- Medicare, India) during bone guttering and tooth sectioning. The control group patients were irrigated with saline (sodium chloride 0.9%, w/v; parental drugs, India) only. Procedures that exceeded more than one hour were excluded from the study. Using Pedersen difficulty index, patients with moderately difficulty index were chosen. All parameters for swelling were recorded preoperatively, on the first, second and seventh postoperative days for both procedures. The data were statistically analyzed using SPSS (version 22.0) software. Independent t-test was applied for operative time in minutes and the two groups matched ($p > 0.05$) for operative time. For change in swelling, T-tests was applied and we found increase in swelling in saline group which was highly significant for change from preoperative to day two ($p = .005$) and from preoperative to day seven ($p\text{-value} < .001$). Mean for Pedersen index for Betadine and saline group was found out to be same ($P = 1$). PVP-I 2% was found out to be significantly reducing swelling as compared to saline suggesting that it acts as an anti-oedematous agent in mandibular third molar surgery.

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Substance use and misuse by high-risk adolescents: A vulnerability evaluation

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Background: Both 600 million consuming betel quid (BQ) and growing smokeless tobacco (SLT) use in South Asian countries are mounting public health concern. This substance consumption is proven risk factor for oral cancer. Adolescents formulate high-risk group for its use as habit commences at an age as early as 13 years. We aimed to observe determinants of SLT and/or BQ use to identify the fundamental influencers of its consumption in adolescents.

Methods: This was a cross-sectional analysis of 2140 adolescents of secondary schools of Karachi, Pakistan. SLT and/or BQ consumption was the main outcome variable. After adjusting for other determinants, both univariate and multivariate binary logistic analyses were used to report outcome as both crude and adjusted odds ratio with 95% confidence interval. The p-value was set to be significant at <0.05 for all analyses.

Results: The overall use prevalence of SLT and/or BQ consumption was 42.6% (n=912). There were more male users than females. A substantial percentage of users (61.2%) were from co-education schools. Students whose peers used SLT and/or BQ were six times more likely to use them (OR=6.79, 95% CI 4.67–9.87, p-value<0.001). The use of SLT and/or BQ by parents made adolescents' use more probable (OR=2.16, 95% CI 1.73–2.65, p-value<0.001). Students who never attended any awareness session regarding the harmful effects of SLT and/or BQ were more likely users. The availability of these products with outside hawkers increased the odds of its use by six times amongst youth.

Conclusion: The use of SLT and/or BQ use by peers and parents, students studying in co-education, lack of awareness sessions based on deleterious effects of the product and the easy access to the product from outside school hawkers, all play positive contributing role towards increased risk of SLT and/or BQ use in high-risk youth.

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The association between oral health behavior reports and clinical measurement among Iranian adolescents

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One of the most common studies in oral health is evaluating the oral hygiene behaviors including daily self-care. Although the best way for assessing oral hygiene is measuring plaque and calculus indices, many studies are based on individual reports. In current study, the relation between the common self-care behaviors and plaque index plus diagnostic values of self-reported tool are evaluated. For this cross-sectional study, we examined 260 students 13 to 15 year-old of Isfahan female's high school, by two-stage randomized sampling. The common tool for oral health behavior was disseminated among both students and their parents. Thereafter a calibrated-examiner assessed dental plaque by 'Sillness and Loe' index. After transformation the responses to binary variables, sensitivity and specificity of self-reported tools was measured in according to the clinical plaque index. The association between 'plaque index' and self-reported brushing frequency was significant ($P=0.017$). Mean 'plaque index' has a significant difference in various groups of parents report on brushing and flossing (P respectively: 0.001, 0.005). Sensitivity and specificity of students and parents reports about brushing were about 35% and 83%. Moderate PPV (71%) and low NPV (52%) was achieved. Parents report on flossing was highly sensitive (85%) and low specific (26%). Findings of this study showed unfavorable self and parent reports about brushing is highly presenting weak plaque index. Also whenever the parents report good flossing habits, it is reliable as good plaque index.

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Role of dentist in detection and reporting child abuse and neglect

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Background & Aim: Child abuse and neglect is a very serious problem that has long consequences for those involved and for society in general. Dental professionals are in an exceptional position to identify and report these cases. Statistics of previous studies revealed that only one percent of dentists reported suspected cases. Aims of the study are to help dentists to learn about their ethical responsibilities and legal obligation toward child abuse cases and how to detect and report them.

Methods: This study will demonstrate types and consequences of child abuse and neglect and the prevalence worldwide. In addition, ethical and legal concerns of different health care organizations related to dentists' are reporting suspected cases. Oral symptoms of child abuse and neglect will be discussed and classified according to the type: physical abuse, sexual abuse and neglect. Physical abuse may results in lacerations of tongue, oral mucosa, palate, gingiva alveolar mucosa or frenum; fractured, displaced, or avulsed teeth; facial bone and jaw fractures; burns; or other injuries. Sexual abuse may represents significant oral manifestations as oral and perioral gonorrhoea, unexplained erythema or petechiae of the palate, particularly at the junction of the hard and soft palate, pseudomembranous and condylomatous lesions of lips, tongue, palate and nose-pharynx. Dental neglect is detected by untreated early Childhood Caries, odontogenous infection or pain, periodontal diseases.

Conclusion: Child abuse and neglect can be prevented by dentist's awareness about their roles of reporting these cases and strengthen their abilities to detect them in early stage.

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The relationship between oral lichen planus and blood group antigens

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The aim of this study was to evaluate the relationship between oral lichen planus and ABO blood group and Rh system in patients referred to Shiraz dental school. This study was a cross sectional-descriptive study. 50 patients with oral lichen planus that knew their type of blood groups and Rh system participated in this study. The disease was diagnosed by clinical trial in reticulo-popular form and both clinical and histopathology exam in erythematous and atrophic forms to diagnose the lesions. Finally, the type of oral lichen planus, type of blood groups and the type of Rh system were recorded for each subject. Results revealed that there is no statistically significant relationship between ABO blood groups and oral lichen planus disease, also no significant relationship is seen between Rh system and this disease. In conclusions, according to the results, ABO blood groups and Rh system are not risk factor for oral lichen planus.

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Recent advances in smart materials and its applications in pediatric dentistry

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The recent technologies for life time efficiency and improved reliability include the use of smart materials and structures. Smart materials are materials that are able to be altered by stimuli and transform back into the original state after removing the stimuli. Smart materials are being used, and are continually being developed, for medical, defensive and industrial purposes. The recent advances in the design of smart materials have created novel opportunities for their applications in bio-medical fields. One of the important applications is dental restoratives. Smart materials support the remaining tooth structure to the extent that more conservative cavity preparation can be carried out. These dental materials may be altered in a controlled fashion by stimulus such as stress, temperature, moisture, pH, electric or magnetic field. Some of these are biomimetic in nature as their properties mimic natural tooth substance such as enamel or dentin. Such smart materials include smart composite, smart ceramics, compomers, resin modified glass ionomer, pit and fissure sealants etc. This presentation attempts to highlight the use of smart materials in pediatric dentistry to get maximum advantage by restorations in dentistry. The benefit for the patient and the quality of dental therapy will undergo a significant improvement if such materials are developed and introduced.

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Different storage media for avulsed teeth: A literature review

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Avulsion is complete displacement of tooth from its alveolar socket. And immediate replantation is the best choice at the site of accident. If this isn't possible; it's better to maintain it in a storage medium. The storage media keeps periodontal cells with less damage to be able to regenerate and attach and to prevent root resorption. The medium that can be selected as a storage medium should have adequate osmolality, appropriate pH, and nutritional metabolites without bacterial content availability and fair price. In the literature, HBSS (as gold standard) natural products such as water, aloe vera, propolis, pomegranate juice, coconut juice, green tea, white egg, milk (high- medium-low fat milk, butter milk, soy milk, probiotic milk, whole milk, pasteurized milk, skim milk and milk-egg white mixture), rehydration solutions such as ringer lactate serum, cell culture medium such as eagle culture medium or EMT, medical media used for maintaining organs such as via span, commercial media such as GC tooth mousses, growth factor treatment and laser irradiation before tooth replantation are named. Due to study limitations and heterogeneous data, there is nothing to be determined as an ideal medium.

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Determination of patient dose and evaluation of ionizing radiation risk from CBCT

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Objective: Although the advanced imaging procedures providing additional information may cause higher radiation doses to the patient. Although dental radiology is a low-dose technique, with the introduction of volumetric and 3D techniques, this claim has changed. Patient dose in CBCT is lower than conventional and multi-slice CT scan; however this low dose has the hazards of ionizing radiation. As the application of the CBCT is increasing in dental radiology and the department with this equipment is developing, determination of patient dose and evaluation of ionizing radiation risk from CBCT seems to be necessary. In this study the eyes, thyroid and parotid glands doses in CRANEX® 3D dental CBCT examination and panoramic has compared.

Methods: In this study the eyes, thyroid and parotid glands doses has calculated in panoramic and dental CBCT imaging using practical measurement method. Used equipment is: CRANEX® 3D dental CBCT and panoramic device (Soredex, Tuusula, Finland) SOLARO 2A TLD reader and a GR 200 TLD. TLDs were calibrated in individual and batch steps before measurement. A number of 35 patients for panoramic and 39 patients for CBCT examination being the case of maxillofacial imaging were evaluated. For any patients 5 TLDs as a pair in the back of eyelid, a pair 2 cm in front of small anterior ear cartilage and one on neck bumps skin were placed and after imaging removed and were reading. The average absorbed dose was calculated for comparison of different organ doses in two examinations.

Results: The results in this study show that in CRANEX® 3D panoramic examination, right eye with 0.00203 ± 0.00022 cGy has the lowest and right parotid with 0.0283 ± 0.0053 cGy has the highest mean dose. Also in CBCT examination, the highest mean dose is for right parotid (0.465 ± 0.078) and the lowest is for left eye (0.0311 ± 0.004). Mean absorbed dose for eyes, parotid and thyroid in panoramic respectively is equal to 0.0022 ± 0.00029 , 0.027 ± 0.0051 , 0.0027 ± 0.0002 and in CBCT is 0.033 ± 0.005 , 0.441 ± 0.074 , 0.0389 ± 0.0051 .

Conclusion: The absorbed dose difference in two examinations for all organs was meaningful ($p < 0.001$). Because wider beam (cone beam) and higher exposure factors in CBCT, organs dose in this examination is higher than panoramic (more than 10 times). In both examinations, parotid glands receive higher dose due to irradiated whit primary beam. Maxillary CBCT is result in more eyes and parotid dose, but thyroid dose in mandibular CBCT is 4.5 times the maxillary scan, as in this scan head position and beam set so that the thyroid received higher exposure rather than maxillary scan.

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Endocrown: A new trend in digital dentistry

Safoura Ghodsi and **Sasan Rasaeipour**
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Prosthetic treatment of endodontically treated teeth has challenged the dentists for years. The reduced strength of these teeth accompanied by consequences of available treatment modalities, make complicated situations. Proposed in 1999 by Bindl and Mörmann as an alternative to the post-and-core supported crown, the endocrown is a one-piece ceramic construction that is minimally invasive of root canals. Following the sound principals, it could be a reliable and acceptable treatment option. The purpose of this lecture is to describe the indications, advantages and preparation guidelines for endocrown as well as the materials used to achieve a reliable and durable result that will be described by step-by-step procedure on the patient.

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