

Research Bulletin

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Initiative of the Research
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Dentistry, University of
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Research Unit

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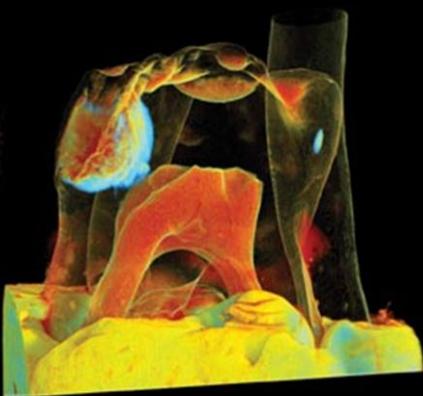
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Ask The Expert

How are we doing? Publications and citations of Saudi dental colleges on Google Scholar

By
Dr. Maha El-Tantawi

Publications are used as quality indicators in the academic sector. The Shanghai ranking ⁽¹⁾, the Times Higher Education ranking ⁽²⁾ and the Centre for Science and Technology Studies ranking ⁽³⁾ evaluate institutions based on the number of publications and citations among other indicators. In the Saudi academic sector, the National Commission for Assessment and Academic Accreditation (NCAAA) uses eleven standards to evaluate academic programs and institutions for accreditation. Standard 10 evaluates research performance using the number of refereed publications per teaching staff and the number of citations in refereed journals per teaching staff in addition to other indicators ⁽⁴⁾.

Data about the number of publications and citations can be obtained from publicly available search engines such as Google Scholar. The main advantage of Google Scholar is the automatic addition of publications to authors as they appear on the internet ⁽⁵⁾. Another factor that characterizes Google Scholar is that citation counts are based on any source citing the publication. This differs from other databases that consider citations only from articles published in indexed journals (such as the Web of Science or the Scopus database) ⁽⁶⁾. The main limitation of Google Scholar involves

the possibility of missing some researchers in an institution. This is because researchers who create a profile on Scholar can be identified when a search is conducted using their affiliations and all their publications are seen listed under their names. For other researchers without a profile, their work will show as individual publications and only if a search is conducted using their names.

Assessing publications' indicators among Saudi dental colleges is needed to establish benchmarks and set targets for progress monitoring. The following analysis uses data from Google Scholar to characterize the research profiles of Saudi dental colleges.

Figure 1(a,b,c) shows that among 20 Saudi dental colleges, 6 (30%) have no authors listed with their affiliations on Google Scholar. The College of Dentistry, University of Dammam had 25 authors with citations. This constituted 38.8% of all authors affiliated with Saudi dental colleges. The College also had the greatest number of publications and citations (543, 40.2% and 4380, 41.6%). Authors affiliated with Dammam, King AbdulAziz, King Khalid, Jazan and Alfarabi college produced 80% of publications. Dammam, Jazan, King AbdulAziz and Princess Noura had 80% of all citations.

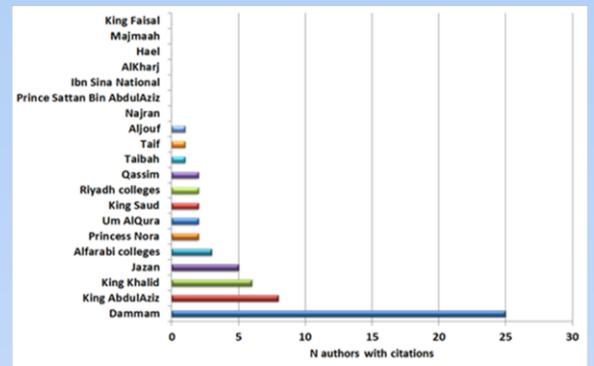


Fig. 1a

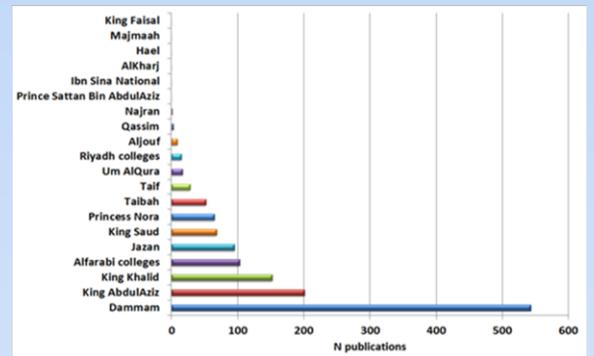


Fig. 1b

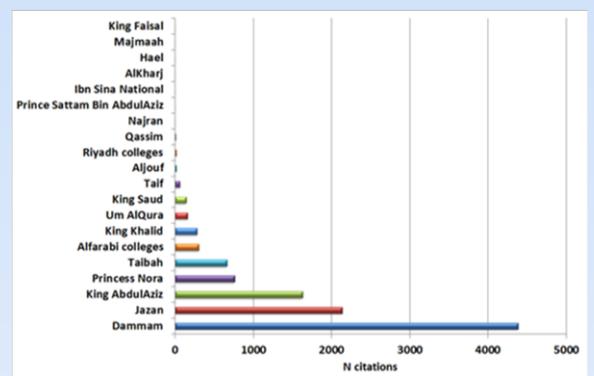


Fig. 1c

Figure 2 shows the number of authors with various levels of citations in the 13 Saudi dental colleges with citations on Google scholars arranged in a descending order by the number of citations. Dammam and Jazan had authors of all three categories; those with more than 100 citations, those with 11 to 100 citations and those with 10 or less citations. King AbdulAziz and Princess Nora had higher number of authors with >100 citations than the remaining 9 colleges.

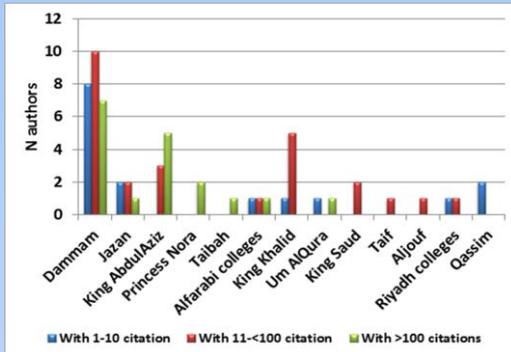


Fig. 2

Conclusions and implications

- Maintaining a significant presence on the internet boosts the reputation of educational institutions in the internet age. This can be done using readily accessible tools such as Google Scholar.
- On Google Scholar, Saudi dental colleges demonstrate differences in (1) number of publications and citations and (2) degree of using technology to announce scholarly achievements.
- On Google Scholar, the number of publications by Saudi dental colleges demonstrates the 20-80 principle where five dental colleges produced 80% of publications. This number closely follows the number of authors in these institutions. The 20-80 principle also applies to the number of citations although the citations do not match the number of authors. As more colleges seek accreditation, their presence on search engines such as Google Scholar is expected to become more noticeable.
- High citations are associated with the presence of few key authors with high citations and a high number of authors with few (1-10) citations.
- Colleges focusing on publications can use the NCAAA indicators to monitor the performance of faculty members in these aspects and to develop strategies for improvement. For example, to improve indicator S10.3 "proportion of teaching staff

with at least one publication during the last year", a useful strategy is to form research teams of experienced and junior teaching staff with different roles fitting the background of each. The resulting publications and their citation would be ascribed to all members of these teams. Another indicator is S10.2 "the number of citations in refereed journals per faculty in the last year". Monitoring this indicator would make teaching staff aware that the number of citations is as important as the number of publications. Possible strategies to improve this indicator include focusing on specific types of publications such as systematic reviews and clinical trials. Another strategy is to team up with international experts with high citations. These indicators should be monitored at the level of teaching staff members and at departments to ensure that the desired target is met.

References

1. Shanghai ranking. Available at: <http://www.universityrankings.ch/methodology/shanghai-jiao-tong>. Accessed December 25th, 2015.
2. The Times Higher Education ranking. Available at <http://www.universityrankings.ch/methodology/times>. Accessed December 25th, 2015.
3. The Leiden ranking. Available at: <http://www.universityrankings.ch/methodology/leiden>. Accessed December 25th, 2015.
4. The Saudi National Commission for Assessment and Academic Accreditation. Key performance indicators. Available at: www.uod.edu.sa/en/administration/deanships/deanship-of-quality-and-academic-accreditation/ncaaa-documents-and-templates. Accessed December 25th, 2015

5. Alex Verstak. [Fresh Look of Scholar Profiles](http://googlescholar.blogspot.com/2014/08/fresh-look-of-scholar-profiles.html). Google Scholar Blog, August 21, 2014. Available at: <http://googlescholar.blogspot.com/2014/08/fresh-look-of-scholar-profiles.html>. Accessed December 25, 2015.
6. Vine R. Google Scholar. J Med Libr Assoc 2006; 94 (1): 97-9.

1. **Majeed A, Farooq I**, Grobler SR, Rossouw RJ. Tooth-Bleaching: A Review of the Efficacy and Adverse Effects of Various Tooth Whitening Products. J Coll Physicians Surg Pak. 2015 Dec;25(12):891-6.

Abstract

Tooth bleaching (whitening) is one of the most common and inexpensive method for treating discolouration of teeth. Dental aesthetics, especially tooth colour, is of great importance to majority of the people; and discolouration of even a single tooth can negatively influence the quality of life. Therefore, a review of the literature was carried out (limited to aesthetic tooth-bleaching) to provide a broad overview of the efficacy and adverse effects of various tooth whitening products on soft and hard oral tissues.

2. **Farooq I, Al-Jandan BA**. Effect of Video Triggering During Conventional Lectures on Final Grades of Dental Students in an Oral Biology Course: A Two-Year Retrospective Study. J Dent Educ. 2015 Dec;79(12):1467-70.

Abstract

The aim of this study was to analyze the effect of the inclusion of video triggers in conventional face-to-face lectures on the final grades of dental students in an oral biology course. The study consisted of two groups of students taking the course in two academic years at a dental school in Saudi Arabia: group 1, 2013-14 (control); and group 2, 2014-15. The total sample comprised 163 students (n=163; group 1: 71 and group 2: 92). Group 1 received lectures without any videos, whereas group 2 received lectures that included two to three videos of one to five minutes in duration with triggering effect (a video was shown every 10-15 minutes into the lecture). The final examination grades of the students were accessed retrospectively, and the data were compared with a chi-square test. The results confirmed that a higher number of students who received video triggering during lectures (group 2) performed better than their counterparts who did not receive video triggers (group 1); the difference was statistically significant (p<0.05). Among the group 2 students, 26% achieved a grade of A, and 37% achieved a grade of B. In contrast, only 7% of the group 1 students obtained a grade of A, and 31% achieved a grade of B. These results suggest that video triggers may offer an advantage over conventional methods and their inclusion in lectures can be a way to enhance students' learning.

3. Ali S, **Farooq I, Moheet IA, Khan SQ, Al-Jandan BA, Al-Khalifa KS**. Self-reported anxiety of dental procedures among dental students and its relation to gender and level of education. Journal of Taibah University, Medical Sciences 2015 Dec;10(4):449-53.

Abstract

Objectives: The study aimed to identify the dental procedures that elicit the highest level of anxiety by various dental procedures and to determine the correlation of anxiety with students' gender and varying perceptions of anxiety across years of dental education. **Methods:** This cross-sectional study was conducted at Sardar Begum Dental College, Peshawar, Pakistan during June 2014. The Corah's Dental Anxiety Scale (DAS) was distributed to all students. This instrument had 26 items examining the anxiety levels experienced for different dental procedures. Options ranging from 1 to 4 were provided for every item, where 1 represented low anxiety and 4 represented the highest anxiety. **Results:** The overall response rate was 67.3% (n = 101; 64 females and 37 males). Among the top five dental procedures eliciting the highest anxiety levels, females were found to be more anxious than males for all procedures (fear of injection/needle, root canal treatment, extraction, and application of cold air) except the need for further treatment. Pre-clinical students (1st and 2nd year) were found to be more anxious than clinical students (3rd and 4th year). Significant differences (p < 0.05) were found for three procedures: rubber dam placement, inability to stop dentist, and impression taking. Clinical students reported high anxiety for the latter, and pre-clinical students reported higher anxiety for the former two procedures. **Conclusions:** Higher anxiety levels were reported by females and pre-clinical students than their respective counterparts. Educational sessions and graded exposure therapy at an initial stage of dental educational training may decrease the anxiety associated with dental procedures.

4. **Soban Qadir Khan, Imran Alam Moheet, Imran Farooq, Faraz Ahmed Farooqi, Aws Saleh ArRejaie,** Mohammad Hassan Abdullah Al Abbad, **Abdul Khabeer.** Prevalence of dental fluorosis in school going children of Dammam, Saudi Arabia. Journal of Dental and Allied Sciences 2015 Dec;4(2):69-72.

Abstract

Objective: Purpose of this study was to determine the prevalence of dental fluorosis and its pattern in primary and permanent teeth among 6-12-year-old Pakistani school going children living in Dammam, Saudi Arabia. **Methods:** This cross-sectional study was performed between June and September 2014. A total number of 496 children were screened and among them 259 were males and 237 were females. World Health Organization's scale was used to examine the children for presence of dental fluorosis. **Results:** Prevalence of dental fluorosis was found to be 33% among examined children. Among the children who had dental fluorosis (n = 164), it was observed that mild and moderate level of fluorosis were prevailing in 113 (69%) children. Furthermore, number of males who were suffering from fluorosis was more than the females. There were 97 males and 67 females affected from dental fluorosis and this difference was also found statistically significant (P = 0.038). **Conclusion:** Prevalence of dental fluorosis among Pakistani school going children was not high. However, the severity of fluorosis was alarming and mild and moderate level of fluorosis was observed in most of the children who were affected from fluorosis.

5. Mohammed SZ, Zohaib KS, **Almas K.** Oral tissue engineering progress and challenges. Tissue Engen Regen Med 2015 Dec;12(6):387-97.

Abstract

Tissue engineering is a multidisciplinary science. The progress of tissue engineering for dental tissues is promising and various dental soft and hard tissues have been regenerated successfully in vitro using stem cells. Prior to their applications practically, there are a number of challenges and unanswered questions that need to be resolved for further progress. It is expected that in next two to three decades, the field of dentistry will be changed significantly by the availability of innovative tissue engineered products in dental office. The objective of this review paper is to highlight the progress of tissue engineering for various dental hard and soft tissues such as enamel, dentin, alveolar bone, periodontium, oral mucosa, and salivary glands. In addition, the challenges in the progress of tissue engineering and future expectations have been discussed.

6. Al-Eraky MM, **Marei HF.** Patterns, trends and thinking 'inside' the box in medical education. Med Educ. 2015 Dec;49(12):1176-8.

Opinion: No abstract available.

7. **Al-Jewair TS,** Al-Jasser R, **Almas K.** Periodontitis and obstructive sleep apnea's bidirectional relationship: a systematic review and meta-analysis. Sleep Breath. 2015 Dec;19(4):1111-20.

Abstract

PURPOSE: The aim of this study is to evaluate the association between periodontal disease and obstructive sleep apnea (OSA). **METHODS:** Electronic search using PubMed, Cumulative Index to Nursing and Allied Health (CINAHL), Cochrane Central Trial Registry, Cochrane Database of Systematic Reviews, Scopus, and Embase was carried out for randomized controlled trials, longitudinal, cohort, case-control, and epidemiological studies on humans, published until October 2014. Manual searches were also performed. The participants considered were adult subjects with OSA and chronic periodontitis. The authors reviewed all articles and extracted data using a customized data abstraction sheet. Methodological quality assessment was carried out using the Newcastle-Ottawa Quality Assessment Scale. **RESULTS:** Six studies met the inclusion criteria set for this review. They evaluated the association between periodontal disease and OSA and the efficacy of periodontal interventions on OSA occurrence and severity. The periodontal disease outcome measures included clinical attachment loss, periodontal pocket depth, oral hygiene indices, radiographic alveolar bone loss, and salivary cytokines. Meta-analysis of four studies revealed a statistically significant association between periodontal disease and OSA (pooled odds ratio = 1.65, 95 % confidence interval (CI) = 1.11, 2.46, P = 0.01). There is insufficient evidence on the efficacy of periodontal disease

interventions. **CONCLUSIONS:** There is some evidence to a plausible association between periodontal disease and OSA. Evidence on the efficacy of periodontal disease interventions is insufficient. The causal-effect relationship of periodontal disease and OSA is debatable. Further research with case-control studies is warranted.

8. Suhayla Mubarak, Ali Hmud, Suresh Chandrasekharan, Aiman A Ali. Prevalence of denture-related oral lesions among patients attending College of Dentistry, University of Dammam: A clinico-pathological study. Journal of International Society of Preventive and Community Dentistry 2015 Nov-Dec;5(6):506-12.

Abstract

Background: Heterogeneous groups of oral lesions are likely to develop among denture wearers. The objectives of this study were to determine the exact prevalence of oral lesions among denture wearers attending the clinics of the College of Dentistry, University of Dammam. **Materials and Methods:** All denture wearers attending the dental clinics in the period between January 2012 and April 2013 were included in this study. Of the total 210 patients, 166 (79%) were males and 44 (21%) were females. Comprehensive oral examination was performed for all patients. Any denture-induced lesion was biopsied. Data collected were analyzed using SPSS program. **Results:** Oral lesions were found in 20.5% of the cases under study (43 out of the total 210 denture wearers). Denture-induced fibrous hyperplasia was the most common type of lesion detected (41.9%). A significant correlation ($P = 0.004$) was found between the type of denture and oral lesions in this study. **Conclusion:** The prevalence of denture-induced oral lesions was found to differ significantly from that reported in other studies. The diversity of these lesions among different studies depends on the quality and materials of dentures delivered, the techniques used, and the methods of patients' instructions adopted.

9. Al-Harbi F, Kaisarly D, Michna A, ArRejaie A, Bader D, El Gezawi M. Cervical Interfacial Bonding Effectiveness of Class II Bulk Versus Incremental Fill Resin Composite Restorations. Oper Dent. 2015 Nov;40(6):622-35.

Abstract

Cervical interfacial bonding quality has been a matter of deep concern. The purpose of this study was to analyze microtensile bond strength (MTBS) and cervical interfacial gap distance (IGD) of bulk-fill vs incremental-fill Class II composite restorations. Box-only Class II cavities were prepared in 91 maxillary premolars ($n = 7$) with gingival margin placement 1 mm above the cemento-enamel junction at one side and 1 mm below it on the other side. Eighty-four maxillary premolars were divided into self-etch and total-etch groups and further subdivided into six restorative material subgroups used incrementally and with an open-sandwich technique: group 1, Tetric Ceram HB (TC) as a control; group 2, Tetric EvoFlow (EF); group 3, SDR Smart Dentin Replacement (SDR); group 4, SonicFill (SF); group 5, Tetric N-Ceram Bulk Fill (TN); and group 6, Tetric EvoCeram Bulk Fill (TE). Groups 2-6 were bulk-fill restoratives. Tetric N-Bond Self-Etch (se) and Tetric N-Bond total-etch (te) adhesive were used in subgroups 1-5, whereas AdheSE (se) and ExciTE F (te) were used in subgroup 6. In an additional group, Filtek P90 Low Shrink Restorative (P90) was used only with its corresponding self-etch bond. The materials were manipulated, light-cured (1600 mW/cm²), artificially aged (thermal and occlusal load-cycling), and sectioned. Two microrods/restoration ($n = 14$ /group) were tested for MTBS at a crosshead-speed of 0.5 mm/min (Instron testing machine). Fracture loads were recorded (Newtons), and MTBSs were calculated (Megapascals). Means were statistically analyzed by the Kruskal-Wallis test, Conover-Inman post hoc analysis for MTBS (multiple comparisons), and Mann-Whitney U test for IGD. The ends of the fractures were examined for failure mode. One microrod/restoration ($n = 7$ /group) was investigated by scanning electron microscopy ($\times 1200$) for IGD. MTBS values for SF/te, P90 in enamel, and TC+SDR/te in enamel and cementum were significantly higher compared with those for the control TC/te and TC/se in cementum. Most of the failures were mixed. IGDs were generally smaller at enamel margins, and the smallest IGDs were found in P90 at both enamel and cementum margins. Bulk-fill and silorane-based composites might provide better cervical interfacial quality than incremental-fill restorations.

10. **Khalid S Hassan, Adel S Alagl, Maha El-Tantawy**, Amani M Alnimr, Yasmeen A. The Prevalence and Association of Preterm Birth with Periodontal Disease in the Eastern Province of Saudi Arabia: Microbiological and Immunochemistry Evaluations. Oral Health and Dental Management 2015 Oct;14(5):297-302.

Abstract

Background: Recent evidence suggests that periodontal disease may be a risk factor for both premature and low-birth weight babies. This study was designed to evaluate the nature of the relationship and the prevalence of preterm birth and periodontal disease in a sample population of women from the Eastern Province of Saudi Arabia. **Methods:** A total of 196 patients were divided into two groups. Group I (Test) included 80 women between 28–36 weeks of gestation with idiopathic preterm labor, who later delivered live infants whose birth weighing <2500g. Group II (Control) included 116 women with gestation periods ≥ 37 weeks delivered live infants weighing ≥ 2500 g. Microbiological analyses made and interleukin 6 (IL-6) levels were measured in the gingival crevicular fluid using a Vitek 2 automated bacterial identification system and an enzyme-linked immunosorbent assay (ELISA) for all patients. **Results:** The following data were obtained: Plaque index, probing pocket depth and clinical attachment level revealed a statistically significant difference between the two groups ($P < 0.05$) except for the gingival index (GI) and bleeding on probing (BoP) ($P > 0.05$). There were increased levels of IL-6 in the gingival crevicular fluid as well as increased Gram-negative bacteria in the preterm birth compared to the full term pregnancies. **Conclusion:** The prevalence of preterm birth was 8.2% in the test population from the Eastern Province of Saudi Arabia. Additionally, there was a correlation between maternal periodontal disease and the preterm birth among Saudi mothers in the Eastern Province suggesting that periodontal disease may be regarded as a true risk factor for preterm birth infants.

11. Al-Rejaie SS, Aleisa AM, **Abuhashish HM**, Parmar MY, Ola MS, Al-Hosaini AA, Ahmed MM. Naringenin neutralises oxidative stress and nerve growth factor discrepancy in experimental diabetic neuropathy. Neurol Res. 2015 Oct;37(10):924-33.

Abstract

OBJECTIVES: Present study aims to investigate the ameliorative effects of naringenin (NG) on experimentally induced diabetic neuropathy (DN) in rats. **METHODS:** Diabetes was induced by single intraperitoneal injection of streptozotocin (STZ, 60 g/kg). Naringenin (25 and 50 mg/kg/day) treatment was started 2 weeks after the diabetes induction and continued for five consecutive weeks. Pain threshold behaviour tests were performed at the end of the treatment. Serum levels of glucose, insulin and pro-inflammatory cytokines were assessed. In sciatic tissues, markers oxidative stress, cytokines and neurotrophic factors were measured. **RESULTS:** NG treatments showed significant decrease in paw-withdrawal ($P < 0.01$) and tail-flick latency ($P < 0.01$). The drug attenuated the diabetic-induced changes in serum glucose, insulin and pro-inflammatory cytokines including tumour necrosis factor-alpha (TNF-alpha), interleukin-1beta (IL-1beta) and interleukin-6 (IL-6). In sciatic nerve, the diabetic-induced alterations in interleukins and oxidative stress biomarkers were significantly attenuated by NG. Decreased sciatic expressions of insulin growth factor (IGF) and nerve growth factor (NGF) in diabetic rats were also ameliorated by NG. Diabetes-induced dysregulated levels of nitric oxide (NO), thiobarbituric acid reactive substances (TBARS), reduced glutathione (GSH), activities of superoxide dismutase (SOD), catalase (CAT), glutathione peroxidase (GPx) and glutathione reductase (GR) were ameliorated by NG. Histological analysis showed that NG corrected the altered sciatic changes in diabetic animals. **DISCUSSION:** We suggest that neuro-protective effect of NG molecules in sciatic nerve of diabetic rats, through its anti-diabetic as well as antioxidant and anti-inflammatory properties.

12. **Muhammad A Nazir, Khalid Almas**. Knowledge and Practice of Evidence-based Dentistry among Dental Professionals: an appraisal of three dental colleges from Lahore, Pakistan. Pakistan Oral and Dental Journal 2015 Oct;35(3):466-71.

Abstract

Evidence-based Dentistry (EBD) is a common approach in Dentistry particularly in developed nations. However, there is scarcity of data about the knowledge and practice of EBD among dental professionals in Pakistan.

The objective was explore the knowledge and practice of EBD by evaluating awareness, attitudes and barriers to its implementation by interns and faculty members from various dental colleges in Pakistan. The study was a cross sectional survey. Self-administrated questionnaires were distributed among 120 male and female interns and faculty members working at three dental colleges in Lahore, Pakistan. Ethical approval was obtained from respective institutes. Informed consents were obtained from the participants before administering questionnaires among them. SPSS 20.0 was used for data analysis. Descriptive statistics included frequency distribution of various responses. Cross tabulation performed to determine odds ratio. Logistic regression analysis was performed to assess the association between practice of EBD and various factors. A 95% confidence interval was used to determined statistical significance. Ninety one subjects completed questionnaires with a response rate of 76%. Sixty five percent of participants were females, and age ranged from 22 to 55 years. The 52.7% of the respondents reported that they applied EBD in ordering tests or treatment, 24.2% attended EBD course or workshop, and 48.4% regularly read journals. Regarding the components of EBD, only one respondent correctly identified three components. About 26.4% responded that systematic review provides the strongest evidence and 54% identified no access to EBD resources a major barrier to using EBD in clinical practice. EBD not applicable to culture was judged by 39.6% of the respondents, 49.5% agreed that patients were willing to get involved in clinical decision making, and 34.1% reported that only 10% of their patients were capable of participating in clinical decision making. Multivariate logistic regression final model showed that year since graduation was strongly associated with practice of EBD (OR=4.68 CI=1.83-11.97). Almost half of the respondents claimed to practice EBD; only one of them was aware of three components of EBD. There is need to incorporate concepts of EBD in undergraduate dental curriculum and EBD workshops and seminars should be organized for dental professionals on regular bases.

13. **Al-Ansari AA, Al-Harbi FA, Baba N.** In vitro evaluation of the bond strength of composite resin foundation materials to dentin. *Journal of Prosthetic Dentistry* 2015 Oct; 114(4):529–535.

Abstract

STATEMENT OF PROBLEM: Achieving adequate bonding of composite resin foundation materials to dentin can be a challenge. Bonding can be affected by the type of bonding material and method used. **PURPOSE:** The purpose of this in vitro study was to test the bond strengths of selected dual-polymerizing composite resin foundation materials to dentin using light, chemical, or dual-polymerized adhesive systems. **MATERIAL AND METHODS:** Eighty freshly extracted human third molars were sectioned vertically into mesial and distal halves and embedded in acrylic resin using a copper cylinder. Specimens were divided into 16 groups. Each group received a resin foundation that was bonded to dentin according to each manufacturer's instructions. All tested foundations were dual polymerized except Tetric Ceram, which was light polymerized. BisCore, Build-it, CompCore, CoreRestore, and FluoroCore resin foundation materials were bonded to dentin with the use of the corresponding adhesives in 3 different bonding methods: adhesive was light polymerized; adhesive was chemically polymerized; and adhesive was dual polymerized. Each specimen was seated in a custom shear test device, and a load was applied with the descending rod of the jig from a mechanical testing machine with a perpendicular force to the dentin-adhesive interface. Statistical analysis was performed using 2-way ANOVA and post hoc pairwise comparison with Tukey test when statistically significant differences were found ($\alpha=.05$). **RESULTS:** Resin foundation materials bonded to dentin with light-polymerized adhesives produced significantly higher bond strengths than when bonded with chemically or dual-polymerized adhesives. No significant difference was found between the single-component and multiple-components adhesives used with Tetric Ceram and BisCore foundations ($P=.083$). However, BisCore used with All-Bond 2 adhesive (multiple components) produced significantly lower bond strengths than when used with One-Step ($P=.024$). Adhesive failure was the most common failure location. Cohesive failures occurred mostly in specimens bonded with light-polymerized adhesives. **CONCLUSIONS:** The light-polymerized adhesives tested produced significantly higher bond strengths when used without chemical activators. The dual-polymerized core foundations produced better bond strengths to dentin when used with light-polymerized adhesives without chemical activators. In comparing single-component with multiple-component adhesive systems with their respective core resins, no difference was found in bond strengths to dentin.

IN PRESS PUBLICATIONS

1. **Tantawi MM**, AbdelAziz WE. Assessment of the Accuracy of Two Dental Screening Methods Used in a School Setting. Oral Health Prev Dent. 2015; In Press.
2. Nasser Al-Shahrani, Abdulaziz Al-Amri, Fahad Hegazi, Khalid Al-Rowis, Abdullah Al-Madani, **Khalid S Hassan**. Prevalence of premature loss of primary teeth and its impact on malocclusion in the Eastern Province of Saudi Arabia. Acta Odontol Scand. 2015; In Press.
3. **Aws ArRejaie, Fahad Al-Harbi, Adel S Alagl, Khalid S Hassan**. Platelet rich plasma gel combined with bovine-derived xenograft for the treatment of dehiscence around immediately placed conventionally loaded dental Implants in human: Cone beam computed tomography and 3-D images evaluation. International journal of Oral & Maxillofacial Implants 2015; In Press.
4. **Hala A. Bahgat, Emad AlShwaimi, Abeer E. El-Embaby**. Evaluation of the bonding ability of a nano-structured adhesive system. International Journal of Dental Science and Research 2015; In Press.
5. **AlShwaimi E, Majeed A, Ali AA**. Pulpal Responses to Direct Capping with Betamethasone/Gentamicin Cream and Mineral Trioxide Aggregate: Histologic and Micro-Computed Tomography Assessments. J Endod. 2015; In Press.
6. **Al-Jandan BA**, Ahmed MG, **Al-Khalifa KS, Farooq I**. Should Surgical Burs Be Used as Single-Use Devices to Avoid Cross Infection? A Case-Control Study. Med Princ Pract. 2015; In Press.
7. **Khalifa S. Al-Khalifa**. Use of the International Caries Detection and Assessment System by Dental Students at the University of Dammam, Saudi Arabia. Saudi J Dent Res 2015; In Press.
8. **Al-Harbi FA, Ayad NM, ArRejaie AS, Bhagat HA**, Baba NZ. Effect of Aging Regimens on Resin Nanoceramic Chairside CAD/CAM Material. J Prosthodont. 2015; In Press.
9. **Khalid Almas**, Ziad Salameh, Ahmad Kutkut, Ahmad Al-Doubali. A Simplified Technique to Measure Plaque on the Intaglio Surfaces of Complete Dentures. Journal of the International Academy of Periodontology 2015; In Press.
10. **Asim Al-Ansari, Fahad Al-Harbi**, Wafaa AbdelAziz, **Maha Abdesalam, Maha M.A. El Tantawi**, Ismail ElRefae. Factors affecting student participation in extra-curricular activities: a comparison between two Middle Eastern dental schools. Saudi Dental Journal 2015; In Press.
11. **Al-Harbi E**, Kaisarly D, Bader D, **El Gezawi M**. Marginal Integrity of Bulk Versus Incremental Fill Class II Composite Restorations. Operative Dentistry 2015; In Press.
12. **Marei HE, Al-Khalifa KS**. Pattern of online communication in teaching a blended oral surgery course. Eur J Dent Educ. 2015; In Press.
13. **Al-Harbi FA, Mahrous AA, Ayad NM, Khan ZA**, Morgano SM. In-vitro shear bond strength of Y-TZP ceramics to different core materials with the use of three primer/resin cement systems. J Prosthet Dent 2015; In Press.
14. **Jehan AlHumaid**, David Tesini, Matthew Finkelman, Cheen Y. Loo. Effectiveness of the D-TERMINED Program of Repetitive Tasking for Children with Autism Spectrum Disorder: A Retrospective Analysis. Journal of Dentistry for Children 2015; In Press.
15. Alshehri M, Alamri HM, **Alshwaimi E**, Kujan O. Micro-computed tomographic assessment of quality of obturation in the apical third with continuous wave vertical compaction and single match taper sized cone obturation techniques. Scanning. 2015; In Press.

16. Ramalingam S, Al-Rasheed A, **ArRejaie A**, Nooh N, Al-Kindi M, Al-Hezaimi K. Guided bone regeneration in standardized calvarial defects using beta-tricalcium phosphate and collagen membrane: a real-time in vivo micro-computed tomographic experiment in rats. *Odontology*. 2015; In Press.

17. **Balgis O Gaffar, Maha Tantawi, Adel Alagl, Asim Al-Ansari**. Food intake, oral hygiene and gingival bleeding in pregnancy: does lifestyle make a difference? A cross sectional exploratory study. *Int J Hlth Sci*. 2016; In Press.

INTERNS RESEARCH PROJECTS

Application #	Supervisor Name	Name of Intern(s)	The Proposal Title	The Specific Field of proposal	Type of Research	Duration
2015001	Dr. Rasha AlSheikh	Hamad AlSaleh	Maxillary Anterior in Proportional Smile design: An Anthropometric Analysis.	Esthetic Dentistry	Clinical	10 Months
2015002	Dr. Abdul Majeed Ahmed	Hassan AlDabbus Abdulaziz Al Ali Ahmed Almadih	Solubility of Different Endnotes Sealers in tows organic Solvents.	Endodontic	Experimental	5 Months
2015003	Dr. Abdul Majeed Ahmed	Khalid Al Odail Mohammed AlMuaybid Abdulaziz AlMarshoud Tamim AlFalah	Effects of Acid Etching Procedures on Surface Micro hardness of Calcium Silicate-Based Cements	Endodontic	Experimental	5 Months
2015004	Prof. Khalid Almas	Thamir Al Houtan Basel Al Mutairi Abdulrahman Al Gamdi	A Survey of Dental Implant Practices in the Eastern Province of Saudi Arabia	Periodontology	Survey	Nov2015-May2016
2015005	Dr. Abdul Khabeer	Mohammed Muhanna Sharaf Al Zaidani	A Survey of Technique of Endodontic Treatment Provided by General Practitioners in Eastern Province of Saudi Arabia	Endodontic	Survey (cross Sectional)	12 Months
2015006	Dr. Eman Bakhurji	Yazeed Al Qahtani	Fluoride Level of Drinking Water in Al Khobar and Dammam. Eastern Province of Saudi Arabia	Dental Public Health/ Pediatric Dentistry	Experimental	9 Months
2015007	Dr. Khalid Hassan	Mishari Al Ghamdi Fawaz Al Tuwajiri	The Prevalence of Periodontal Diseases in the Eastern Province of Saudi Arabia	Periodontology	Survey	12 Months

2015008	Dr. Ahmed Al Thobaity	Abdulmalik Al Taher Abdullah Al Harbi	Fracture Resistance & Failure of Standard & Modified MOD Cavity Designs; an in-vitro Analysis	Restorative Dentistry	Experimental	5 Months
2015009	Dr. Haytham Al Mahalawy	Mujtaba Al Abdullatif	Extraction of Permanent Maxillary Teeth Using Single Labial Articaine 4% Injection Versus Routine Labial and Palatal Lidocaine 2% Injection	Oral and Maxillofacial	Clinical	12 Months
2015010	Dr. Muhammad Nazir	Ahmed Al Khalaf Dhya Al Nahawi Hashim Al Naser	The Knowledge and Practice of Forensic Dentistry Among Dental Practitioners in the Eastern Province, Saudi Arabia	Dental Public Health	Survey	8 Months

For further information and comments, please contact

Vice Deanship for Postgraduate Studies and Scientific Research
College of Dentistry, University of Dammam
Kingdom of Saudi Arabia
Tel: 013-33-31510
Email: vdpd.dent@uod.edu.sa

**I have not failed.
I have just found 10,000 things that do not work.**



"Keep trying, keep innovating"